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Research article

Revision of the pollen beetle genus *Meligethes* (Coleoptera: Nitidulidae)

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Abstract

A taxonomic revision of members of the genus *Meligethes* Stephens, 1830 is carried out. Taxonomic and distributional notes are provided on fiftythree *Meligethes* species, mostly known from the Eastern Palearctic and marginally from the Western Palearctic and the Oriental Regions. Among these, twentythree new species of *Meligethes* are diagnosed, figured and described: *M. argentithorax* **sp. n.** (Central China: Shaanxi, Shanxi), *M. aurantirugosus* **sp. n.** (Nepal), *M. aureolineatus* **sp. n.** (Central China: Sichuan), *M. aurifer* **sp. n.** (Central China: Shaanxi, Shanxi), *M. brassicogethoides* **sp. n.** (SW China: Yunnan), *M. clinei* **sp. n.** (SW China: Yunnan), *M. elytralis* **sp. n.** (Central China: Sichuan), *M. ferruginoides* **sp. n.** (Central China: Sichuan), *M. cinereoargenteus* **sp. n.** (Central China: Sichuan), *M. henan* **sp. n.** (Central China: Henan), *M. luteoornatus* **sp. n.** (SW China: Yunnan), *M. marmota* **sp. n.** (Nepal), *M. nivalis* **sp. n.** (SW and central China: Xizang and Chongqing), *M. martes* **sp. n.** (Central China: Shaanxi, Shanxi, Sichuan), *M. nigroaeneus* **sp. n.** (SW China: Yunnan), *M. occultus* **sp. n.** (SW China: Yunnan), *M. pseudochinensis* **sp. n.** (Central China: Hubei), *M. pseudopectoralis* **sp. n.** (SW China: Yunnan), *M. schuelkei* **sp. n.** (Central China: Sichuan, Shaanxi), *M. simulator* **sp. n.** (Central-N China: Shanxi), *M. stenotarsus* **sp. n.** (SW China: Yunnan, Xizang), *M. tryznai* **sp. n.** (SW China: Yunnan), and *M. volkovichi* **sp. n.** (SW China: Yunnan). Revaluations at specific rank from synonymy are introduced for *Meligethes lutra* Solsky 1860, and for *M. melleus* Grouvelle, 1908. Three new synonymies are established: *Meligethes brevipilus* Kirejtshuk, 1980 = *M. auripilis* Reitter, 1889 (**syn. n.**), *Meligethes zakharenkoi* Kirejtshuk, 2005 = *M. shirakii* Sadanari Hisamatsu, 1956 (**syn. n.**), and *Meligethes shirozui* Sadanari Hisamatsu, 1965 = *M. wagneri* Rebmann, 1956 (**syn. n.**). Complete redescriptions are given for *Meligethes binotatus* Grouvelle, 1894, *M. castanescens* Grouvelle, 1903, *M. ferrugineus* Reitter, 1873, and *M. melleus* Grouvelle, 1908. The male of *Meligethes lloydi* Easton, 1968, is described and figured for the first time. The female genitalia of *Meligethes auricomus* Rebmann, 1956, *M. cinereus* Jelínek, 1978, and *M. griseus* Jelínek, 1978 are described and figured for the first time. Available information on insect-host-plant relationships and ecology are summarized for each species; probably all are associated as larvae with flowers of Rosaceae, chiefly of members of the closely related genera *Rosa* L., *Rubus* L., *Prunus* L., and *Crataegus* Tourn. ex L. All treated species are grouped in two here revaluated subgenera (*Meligethes* s.str. and *Odonthogethes* Reitter, 1871), and tentatively grouped also in species-groups and (when necessary) species-complexes, based on their morphology.

Key words: *Meligethes*, taxonomy, new species, new synonymies, Rosaceae, host-plants, Palearctic Region, China.

Introduction

Meligethes Stephens, 1830 till very recent times (Audisio et al. 2009) was the largest genus of the beetle family Nitidulidae, including, only in the Palaearctic Region, some 250 pollen-eating species whose larval stages are associated with flowers of several plant families (mainly Brassicaceae, Lamiaceae, Fabaceae, and Rosaceae) (Kirejtshuk 1992; Audisio 1993; Jelínek & Audisio 2007). Audisio et al. (2009) formally proposed to delimit the true *Meligethes* [the type species of *Meligethes* is the European *M. atratus* (Olivier 1790)] in accordance with the Palearctic *Meligethes atratus* + *M. denticulatus* groups, while attributing all remaining species to several distinct and separated genera, most of which corresponding to the main previously recognized subgenera or species-groups within "*Meligethes*" s.l. Kirejtshuk & Kirejtshuk (2012) recently pretended to re-introduce the previous generic classification, which was demonstrated untenable (including obviously polyphyletic taxa) also on molecular base (Trizzino et al. 2009; Audisio et al. 2014). For this reason the proposal by Kirejtshuk & Kirejtshuk (2012) was not considered here.

True *Meligethes* now contains several species groups and complexes including some taxa that are very similar morphologically and difficult to classify (Reitter 1873, 1889; Grouvelle & Guillebeau 1894; Grouvelle 1903, 1908, 1913a, 1913b; Rebmann 1956a, 1956b; Easton 1956, 1957a, 1957b, 1968; S. Hisamatsu 1956, 1965; Kirejtshuk 1977a, 1979a, 1979b, 1980, 1988, 1992, 2005; Audisio 1980, 1993; Jelínek & Audisio 2007; S.-T. Hisamatsu 2009). This assemblage comprises more than fifty

described and undescribed species, mostly distributed in eastern Palearctic areas (from Middle Asia to Japan), only three of them being distributed also in Western Palearctic [*Meligethes atratus* (Olivier, 1790), *M. flavimanus* Stephens, 1830, and *M. denticulatus* (Heer, 1841); Audisio 1993; Jelínek & Audisio 2007; Audisio et al. 2009], and only two (*M. melleus* Grouvelle, 1908, and *M. binotatus* Grouvelle, 1894) marginally reaching the Oriental Region in E Myanmar (Burma) and NE India. Probably all known species are associated with flowers of the plant family Rosaceae, characteristically have large average body size (2.0-4.5 mm length, in most cases combined with relatively wide and scarcely convex shape), well distinct and almost right or slightly acute posterior angles of pronotum (frequently distinctly protruded backwards), usually very small and even teeth on outer edges of their anterior tibiae, more or less distinct depressions behind eyes in lateral view, usually V-shaped large and deep incision on distal portion of tegmen in males, and typically large, triangular, more or less pointed, and usually heavily sclerotized ovipositors in females.

The main aim of the present paper is to update and clarify the taxonomy and geographic distribution of this important assemblage, using an integrated approach (morphology, and, when data available, field observations on insect/host-plant relationships). Comparison of DNA sequences (COI, ITS2, 18S, PEPCK and Elongation Factor genes) between most species within this genus, to reconstruct a molecular phylogeny of the whole taxon and its relationships with other genera of Meligethinae, is the aim of a parallel research (Audisio et al. unpublished data), but available results and evidence from this study are not discussed here. A virtual key to identification of the 53 thus far known *Meligethes* species, based on MOSCH® software (Cerretti et al. 2012), and a cladistic morphological analysis of the same are included in an upcoming companion paper (Cerretti et al. unpublished).

The present revision is part of a multi-phase project to accomplish the task of a complete taxonomic revision and phylogenetic rearrangement of World Meligethinae.

Materials and Methods

Morphometric analysis

Measurements of external body shape (pronotum and elytra) were made using a digital camera mounted on a MZ8 WILD stereomicroscope (40-80 x), and the image processing software package WINVISION® (Delta Sistemi, Rome). Measuremets of tarsal, antennal, and genital characters were all made using the same device/software and from accurate drawings made with a drawing tube, both mounted on a BX50 OLYMPUS® microscope (200-1000 x). In the case of paired structures (e.g. legs, antennae or genital characters) the mean was used. Also a few ratios between measured characters have been used in species descriptions and keys to identification. The use of ratios has been criticised by some authors (Atchley et al. 1976), but supported by others who point out the value of using ratios to measure shape particularly when the raw data are logarithmically transformed (Hills 1978; Dodson 1978; Belfiore 1996; Audisio et al. 2001a, 2001b).

Morphological terminology follows Jelínek (1975, 2000a, b), Audisio (1993), Audisio et al. (2009), and Jelínek et al. (2010). Total length of specimens is here defined as the distance between anterior margin of clypeus and posterior apex of pygidium. Maximum width of body is defined as the maximum (combined) width of elytra. Refer to Table 1 (alphabetical order) and to Figs 3 a-g for acronyms and schemes of measurements used in the main text and in keys to identification.

Scanning electron observations with SEM were mostly performed (1995/2007) in the Museo Nazionale d'Arte Orientale, Servizio di Bioarcheologia e Microscopia, Rome, using a Leo® model 435-VP SEM under both ultrahigh vacuum or variable pressure condition (150–2000 ×); for high pressure conditions, adult specimens were mounted and coated with gold-palladium alloy, whereas for variable pressure conditions specimens were mounted without alloy coating. Most recent SEM observations were performed in the Interdipartimental Laboratory of Microscopy, Sapienza Rome University, using a Hitachi® model 3000 SEM under variable pressure condition (150–5000X). Colour pictures were mostly performed using a Leica® stereomicroscope (40-160 x) and a Leica® digital camera, combined with the Elycon® software.

Acronyms of museal institutions

Material examined from or preserved in the following institutions (Table 2).

Distributional information

In distributional data are used the acronyms recently followed for the Palearctic Region by Audisio & Jelínek 2004 and by Jelínek & Audisio 2007, with few adaptations:
WPA: Western Palearctic Region; **EPA: Eastern Palearctic Region**; **ORR**: **Oriental Region**

Europe

AB: Azerbaijan; **AL**: Albania; **AR**: Armenia; **AU**: Austria; **BE**: Belgium; **BH**: Bosnia Herzegovina; **BU**: Bulgary; **BY**: Belarus; **CZ**: Czech Republic; **CR**: Croatia; **DE**: Denmark; **EN**: Estonia; **FI**: Finland; **FR–FRA**: France mainland; **FR–COR**: Corsica; **GB**: Great Britain; **GE**: Germany; **GG**: Georgia; **GR**: Greece; **HU**: Hungary; **IR**: Ireland; **IT–ITA**: Italy mainland, including San Marino and Vatican City; **IT–SAR**: Sardinia; **IT–SI**: Sicily; **LA**: Latvia; **LS**: Luxemburg; **LT**: Lithuania; **MC**: Macedonia; **MT**: Montenegro; **NL**: Netherlands; **NR**: Norway; **PL**: Poland; **PT**: Portugal; **RO**: Romania; **RU**: Russia; **SE**: Serbia; **SK**: Slovakia; **SL**: Slovenia; **SP**: Spain; **SV**: Sweden; **SZ**: Switzerland; **TR**: Turkey; **UK**: Ukraine.

Table 1 – Acronyms of measurements used in the main text and in keys to identification.

ANLE	antennal length (Fig. 3 d)
BWAE	aedeagal width at proximal base (Fig. 3 f)
CGOW	distance between basal outer apices of gonocoxites (Fig. 3 g)
CLLE	length of the antennal club (Fig. 3 d)
DSIA	distance between the point of insertion of styli and distal apex of the ovipositor (Fig. 3 g)
DTIN	depth of the median excision of tegmen (Fig. 3 e)
GONL	distance between "central point" and distal apex of the ovipositor (Fig. 3 g)
HWEA	head width between outer vertices of eyes (Fig. 3 a)
L02J	length of 2nd antennomere (Fig. 3 d)
L03J	length of 3rd antennomere (Fig. 3 d)
L04J	length of 4th antennomere
L05J	length of 5th antennomere
LEAE	length of the median lobe of aedeagus (Fig. 3 f)
LELY	elytral length (Fig. 3 a)
LETE	maximum length of tegmen (Fig. 3 e)
LETI	length of front tibiae (mean) (Fig. 3 b)
LFTA	total length of front tarsi (mean) (Fig. 3 c)
LLTJ	length of last tarsomere of front tarsi (mean) (Fig. 3 c)
LPR1	length of pronotum in its median portion
LPTI	length of metatibiae
LSIS	length of main aedeagal sclerites
OVPL	total length of the ovipositor
STLE	length of styli (Fig. 3 g)
THLE	maximum length of setae at distal apex of tegmen
W03J	maximum width of 3rd antennomere (Fig. 3 d)
W10J	maximum width of 10th antennomere (Fig. 3 d)
WELY	combined elytral width (Fig. 3 a)
WFT	maximum width of second tarsomere of front tarsi (mean) (Fig. 3 c)
WIA	maximum width of aedeagus (Fig. 3 f)
WISP	width of tegmen at its subproximal widest point (Fig. 3 e)
WITE	maximum width of tegmen in its distal portion (Fig. 3 e)
WITI	maximum width of front tibiae, excluding teeth (mean) (Fig. 3 b)
WLTJ	maximum width of last tarsomere of front tarsi (mean) (Fig. 3 c)
WPR1	pronotal width at posterior angles (Fig. 3 a)
WPR2	pronotal width at posterior 1/3 of its length (Fig. 3a)
WPRA	pronotal width between vertices of its anterior angles
WPTI	maximum width of metatibiae
WSIS	maximum combined width of main aedeagal sclerites (lateral view)

North Africa
AG: Algeria; **CI**: Canary Islands; **EG**: Egypt; **LB**: Libya; **MO**: Morocco; **MR**: Madeira Archipelago; **TU**: Tunisia.

Asia
AF: Afghanistan; **ANH**: China, Anhui; **AP**: India, Arunachal Pradesh; **AS**: India, Assam; **BEI**: China, Beijing (= Peking); **BT**: Bhutan; **CH**: China; **CHQ**: China, Chongquing; **CY**: Cyprus; **ES**: Russia, East Siberia; **FE**: Russia, Far East; **FUJ**: China, Fujian (= Fukien); **GAN**: China, Gansu (= Kansu); **GUA**: China, Guandong (= Kwantung); **GUI**: China, Guizhou (=Kweichow); **GUX**: China, Guanxi (= Kwangsi); **HAI**: China, Hainan; **HEB**: China, Hebei (= Hopeh); **HEI**: China, Heilongjiang (= Heilongkiang); **HEN**: China, Henan (= Honana); **HP**: India, Himachal Pradesh; **HUB**: China, Hubei (Hupeh); **HUN**: China, Hunan; **JIA**: China, Jiangsu (= Kiangsu); **JIL**: China, Jilin (= Kirin); **JIX**: China, Jiangxi (= Kiangsi); **IN**: Iran; **IQ**: Iraq; **IS**: Israel; **JA**: Japan; **JO**: Jordan; **KA**: India, Kashmir; **KI**: Kyrgyzstan; **KU**: Kuwait; **KZ**: Kazakhstan; **LE**: Lebanon; **LIA**: China, Liaoning; **MG**: Mongolia; **MY**: Myanmar; **NC**: North Korea; **NE**: China, Northeast Territory; **NIN**: China, Ningxia (= Ningsia); **NMO**: China, Nei Mongol (= Inner Mongolia); **NO**: China, Northern Territory; **NP**: Nepal; **NW**: China, Northwest Territory; **OM**: Oman; **PA**: Pakistan; **QA**: Qatar and United Arab Emirates; **QIN**: China, Qinghai (= Tsinghai); **RU**: Russia; **SA**: Saudi Arabia; **SC**: South Ko-

Table 2 – Acronyms of museal institutions.

ARCC	A.R. Cline's collection, currently housed in the Plant Pest Diagnostics Center in Sacramento, California, USA
BMNH	Natural History Museum, London
CAL	A. Lasoń's collection, Bialystok, Poland
CAR	P. Audisio's collection, currently housed in the Zoological Museum, Sapienza Rome University, Rome, Italy
CAS	California Academy of Sciences, Sacramento, USA
CHHU	Sadatomo and Sadanari Hisamatsu's Collection, The United Graduate School of Agricultural Sciences, Ehime University, Japan
CSCA	California State Collection of Arthropods,Sacramento, California, USA
ETHZ	Eidgenössische Technische Hochschule, Entomologisches Institut, Zürich, Switzerland
IZAS	Institute of Zoology, Chinese Academy of Sciences, Beijing, China
HNHM	Hungarian Natural History Museum, Budapest, Hungary
MAKB	Zoologische Forschungsinstitut und Museum "Alexander Koenig", Bonn, Germany
MHNG	Muséum d'Histoire Naturelle, Genève, Switzerland
MNHN	Muséum National d´Histoire naturelle, Paris, France
MNST	National Museum of Natural Science, Taichung, Taiwan NHMB – Naturhistorisches Museum, Basel, Switzerland
NHMW	Naturhistorisches Museum, Wien, Austria
NKME	Museum für Naturkunde, Erfurt, Germany
NKMS	Museum für Naturkunde, Stuttgart, Germany
NMPC	National Museum, Prague, Czech Republic
PANW	Institute of Zoology, Polish Academy of Sciences, Warszawa, Poland
RSC	R. Schuh collection, Wiener Neustadt, Austria
SMF	Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt-am-Main, Germany
ZIN	Zoological Institute, Academy of Sciences, St. Petersburg, Russia
ZMUM	Zoological Museum, Moscow State University, Moscow, Russia
ZSM	Zoologische Staatssammlung, München, Germany.

rea; **SCH**: China, Sichuan (= Szechwan); **SD**: India, Sikkim and Darjeeling District; **SE**: Southeastern Territory of China including Macao and Hong Kong; **SHA**: China, Shaanxi (= Shensi); **SHG**: China, Shanghai; **SHN**: China, Shandong (= Shantung); **SHX**: China, Shanxi (= Shansi); **SI**: Egypt, Sinai; **SW**: China, Southwestern Territory; **SY**: Syria; **TAI**: Taiwan (= Formosa); **TD**: Tadjikistan; **TIA**: China, Tianjin (= Tsiensin); **TM**: Turkmenistan; **TR**: Turkey; **UP**: India, Uttaranchal, Uttar Pradesh; **UZ**: Uzbekistan; **WS**: Russia, west Siberia; **XIN**: China, Xinjiang (= Sinkiang); **XIZ**: China, Xizang (= Tibet); **YE**: Yemen; **YUN**: China,Yunnan; **ZHE**: China, Zhejiang (= Chekiang).

Phenology

Months of recorded occurrence are indicated in Roman notation; those of believed reproduction period (and larval development) are marked in bold.

Taxonomy

Meligethes Stephens, 1830

Inclusive species vary greatly in size (2.0-4.5 mm length), and share the following combination of characters.

Body color and pubescence: pubescence variable, usually short and fine, but several species with long and prostrate setae, golden to silvery-whitish and dense, partially concealing the usually dark brown (rarely reddish, metallic green, or metallic violet) dorsal body surface (Figs 18-22); pronotal and elytral sides relatively widely flattened, typically same color as disc, a few species paler, reddish (Figs 18-22); lateral margin of pronotum and elytra with a series of faintly distinct, small and short setae, each seta 0.3-0.5X as long as those on elytral disc; posterior margin of pronotum with more or less long, usually distally bifid or trifid microsetae, their styloid proximal portion markedly longer than their bifid or trifid distal portion (Fig. 1 c); microsetae uniformly distributed, but longer on middle region anterior to scutellum.

Dorsal habitus: body moderately convex, in most cases wide and oval (Figs 18-22); dorsal punctures on discal portion of pronotum as large as or larger than eye facet, usually dense and moderately to deeply impressed; anterior margin of clypeus usually truncate (but moderately emarginated in several species of the *Meligethes ferrugineus*, *M. auripilis/binotatus* and *M. vulpes* complexes), simple, i.e. always without small distinct medial bulge, bordered (Fig. 2 a); circum-ocular sulci on dorsal side of head always absent (Fig. 2 a); eyes large and usually moderately projecting laterally (Figs 2 a, 18-19); pronotum with markedly distinct posterior angles, faintly acute to almost at right angle, frequently distinctly directed posteriorly (Figs 18-22); scutellum uniformly punctured on most

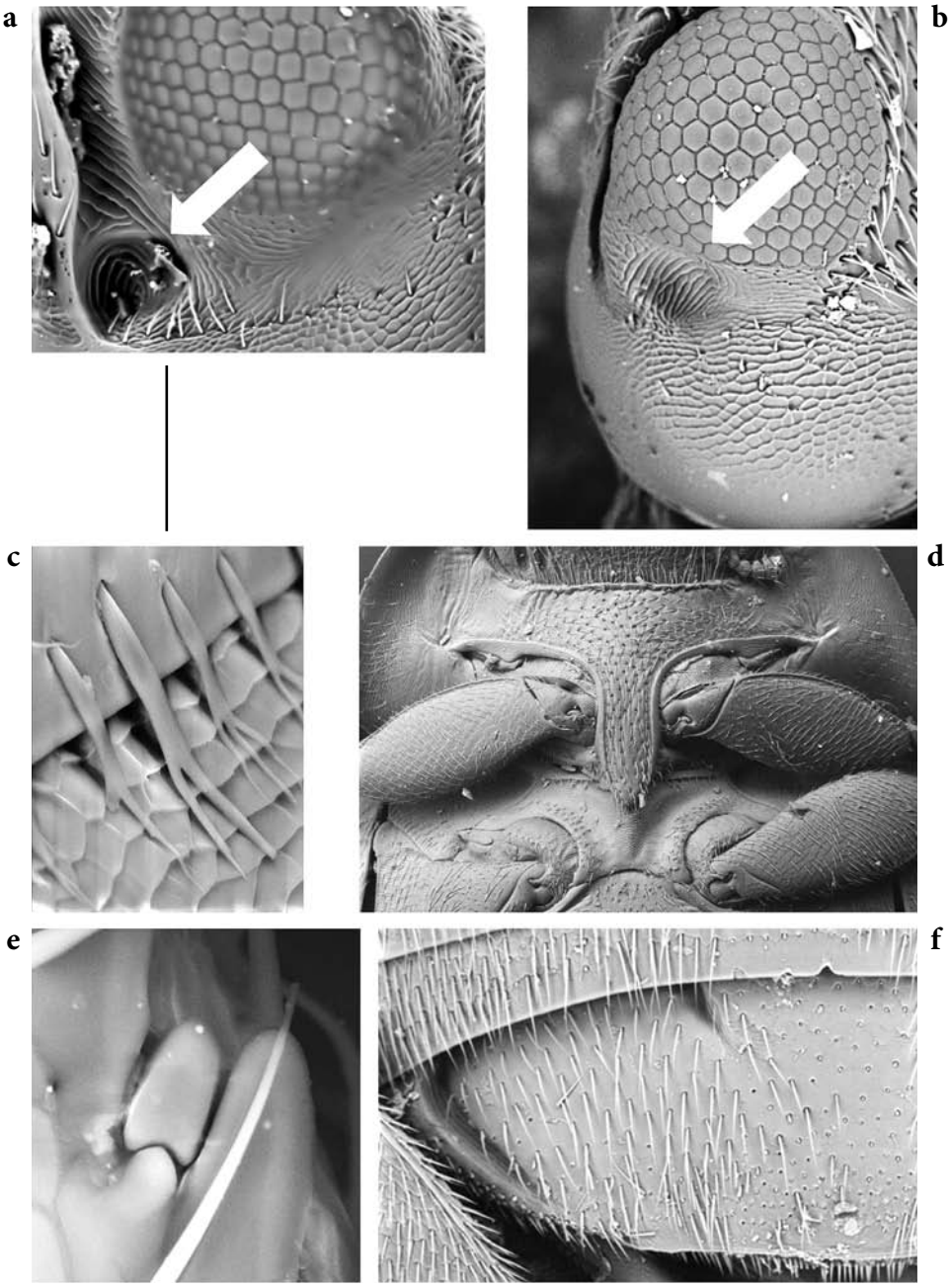

Fig. 1 − SEM pictures of *Meligethes* spp.: **a**, *M. flavimanus* Stephens, 1830; **b**, **c**, **e**, *M. castanescens* Grouvelle, 1903; **d**, **f**, *M. denticulatus* (Heer, 1841). **a**, **b**, left eye and lateral portion of temples, lateral view; **c**, microchetae on posterior edge of pronotum (in front of scutellum); **d**, prosternum and mesoventrite; **e**, pre-distal tooth on anterior tibiae and associated basal spicula; **f**, left portion of last visible abdominal ventrite. Scale bar: Fig. e = 15 µm; Fig. c = 20 µm; Figs a, b = 0.12 mm; Fig. f = 0.18 mm; Fig. d = 0.5 mm.

of exposed portion; elytra with simple punctation, or with more or less distinct transversely strigose sculpturing; elytral humeral angle distinct, obtuse, frequently slightly protruding laterally and posteriorly (Figs 18-22); elytral humeral stria usually partially distinct, long, and shallowly impressed (Fig. 3 a), rarely indistinct; elytral pre-sutural striae visible, usually originating posterior to scutellar vertex, terminating prior to elytral apex, and delimiting on each elytron a more or less distinct, flat sutural area, widest at posterior third, nearly as wide as proximal width of 3rd antennomere; elytral apices truncately rounded in both sexes (Figs 3 a, 18-22), with the exception of females of *M. cinereus* and *M. griseus* from Bhutan, and of *M. elytralis* from China, where elytra are more or less distinctly lobed distad (Figs 2 g-i); pygidium partially exposed, moderately convex, apically rounded or pointed in both sexes (Figs 18-22), its proximal portion (hidden under elytral apex) with inner posterior apices of basal arched im-

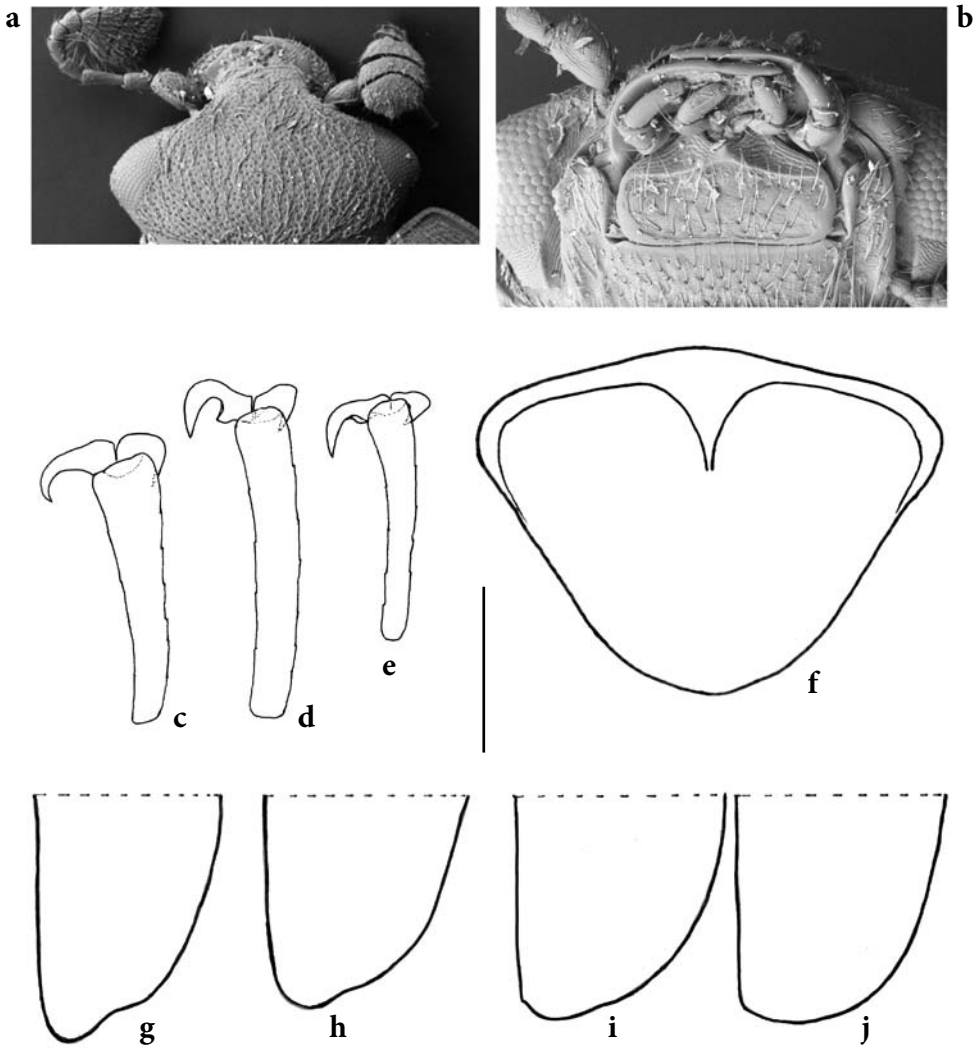

Fig. 2 − SEM pictures and morphological details of *Meligethes denticulatus* (Heer, 1841): **a**, head, dorsal view; **b**, head, ventral view; **d**, last metatarsomere with tarsal claws. *Meligethes atratus* (Olivier, 1790): **c**, last metatarsomere with tarsal claws. *M. flavicollis* Reitter, 1873: **e**, last metatarsomere with tarsal claws; **f**, male pygidium. *M. cinereus* Jelínek 1987: **g**, female right elytral apex. *M. griseus* Jelínek, 1978: **h**, female right elytral apex. *M. elytralis* sp. n.: **i**, female right elytral apex. *M. tryznai* sp. n.: **j**, female right elytral apex. Scale bar: 0.1 mm (Figs c, d, e); 0.3 mm (Fig. b); 0.5 mm (Figs a, f); 0.8 mm (Figs g, h, i, j).

pressions long, markedly protruded backwards, here nearly connected each other (Fig. 2 f).

Ventral habitus: antennal furrows on head markedly delimited, and moderately convergent posteriorly; mentum subpentagonal (Fig. 2 b); temples behind eyes (postero-lateral view) on each side always with more or less deep rounded, pit-shaped depression (Figs 1 a-b); in all species of the subgenus *Meligethes* s.str. (= *M. atratus* lineage) this depression is placed at the end of antennal grooves (Fig. 1 a), and well within the distal edges of the latter; in all species of the subgenus *Odonthogethes* (= *M. denticulatus* lineage) this depression is placed immediately under the posterior ventrolateral edge of each eye, much more dorsad than in *Meligethes* s.str., and markedly outside the antennal grooves (Fig. 1 b); both proepisternal-prosternal sutures almost completely obliterated (Fig. 1 d), then never raised to form an antennal ridge able to receive the flagellar antennal portion when beetles are in tonic immobility; prosternal process variably shaped, moderately wide, subapical subparallel portion 1.6-2.0X as wide as maximum width of 1st antennomere, apex usually bluntly rounded to bluntly pointed (Fig. 1 d); lateral borders of prosternal process delimiting shallowly impressed but distinct furrows, distally terminating at pre-distal lateral expansions (Fig. 1 d); posterior margin of mesosternum simple, never medially incised, mesosternal longitudinal ridge usually strongly raised, long, and well-marked (Fig. 1 d; Figs 167-168 in Kirk-Spriggs 1996); male impressions and/or tubercles on metaventrite variably developed; first two visible abdominal ventrites simple in both sexes, without tufts of setae; caudal marginal lines of metacoxal cavities simple, parallel and contiguous to posterior margin, without deep

Checklist of members of the genus *Meligethes* Stephens, 1830 (ordered by species group and species complex; species' numbers indicate and reflect the adopted sequence of species discussions in the main text)

1. Subgenus *Meligethes* s.str. (= *Meligethes atratus* lineage):

1.1. *Meligethes atratus*-group

1.	***flavimanus*** Stephens, 1830	Palaearctic Region
	asperrimus Guillebeau, 1897	
	borealis Motschulsky, 1845	
	foersteri Reitter, 1871	
	foveifrons Reitter, 1871	
	lumbaris Sturm, 1845	
	ogumae Matsumura, 1911	
	sibiricus Rebmann, 1956	
2.	***atratus*** (Olivier, 1790)	Palaearctic Region
	rufipes (Marsham, 1802)	
3.	***hammondi*** Kirejtshuk, 1980	Central China (Shaanxi, Henan, Sichuan)
4.	***torquatus*** Jelínek, 1997	Taiwan
5.	***violaceus*** Reitter, 1873	SE Russia (Ussuri), E China, Japan
6.	***cyaneus*** Easton, 1957	Japan
	violaceus auct., partim, nec Reitter, 1873	

1.2. *Meligethes vulpes*-group

7.	***vulpes*** Solsky, 1876	Uzbekistan, Kyrgyzstan, Tadjikistan, NW China (Xinjiang)
	melanocephalus Rebmann, 1956	
	subopacus (Reitter, 1891)	
	transmutatus Grouvelle, 1913	
8.	***melleus*** Grouvelle, 1908	Myanmar, N India, N Pakistan, Afghanistan, S Tajikistan
	vulpes auct., partim, nec Solsky, 1876	
	stultus Grouvelle, in litteris (nomen in coll.)	
9.	***lutra*** Solsky, 1876	Uzbekistan
10.	***martes*** sp. n.	Central-N China (Shaanxi, Shanxi, Sichuan)

1.3. *Meligethes nepalensis*-group

11.	***nepalensis*** Easton, 1968	Nepal
12.	***volkovichi*** sp. n.	SW China (Yunnan)
13.	***cinereus*** Jelínek, 1978	Bhutan
14.	***griseus*** Jelínek, 1978	Bhutan
15.	***cinereoargenteus*** sp. n.	Central China (Sichuan)

1.4. *Meligethes auripilis/binotatus*-group (*binotatus*-complex)

16.	***binotatus*** Grouvelle, 1894	NE India, Nepal, SW China (Yunnan), N Myanmar
17.	***semenovi*** Kirejtshuk, 1979	SE Russia (Ussuri), NE China
18.	***transmissus*** Kirejtshuk, 1988	Central & S China (Sichuan, Yunnan)
19.	***stenotarsus*** sp. n.	SW China (Yunnan, Xizang)
20.	***tryznai*** sp. n.	S China (Yunnan)
21.	***elytralis*** sp. n.	Central China (Sichuan)
22.	***auricomus*** Rebmann, 1956	SE China (Fujian/Jiangxi)
23.	***nivalis*** sp. n.	SW and central China (Xizang, Chongqing)
24.	***marmota*** sp. n.	Nepal

(***auripilis*-complex**)

25.	***auripilis*** Reitter, 1889	Central & S China (Sichuan, Yunnan, Gansu, Shanxi, Shaanxi)
	brevipilus Kirejtshuk, 1980 **(syn. n.)**	

26.	***argentithorax*** sp. n. *auripilis* auct., partim, nec Reitter, 1889	Central & S China (Qinghai, Sichuan)
27.	***clinei*** sp. n.	S China (Yunnan)
28.	***aurifer*** sp. n.	Central China (Shaanxi, Shanxi)
29.	***aureolineatus*** sp. n.	Central China (Sichuan)

2. Subgenus *Odonthogethes* Reitter, 1871 (= *Meligethes denticulatus* lineage):

2.1. *Meligethes flavicollis*-group

30.	***flavicollis*** Reitter, 1873 *perversecoloratus* Roubal, 1943 *semirufus* Reitter, 1879	E Siberia, Japan, S & E China

2.2. *Meligethes denticulatus*-group

31.	***denticulatus*** (Heer, 1841) *hebes* Erichson, 1845 *honshuensis* Easton, 1956 *marginatus* Gredler, 1870 *marginalis* Motschulsky, 1860 *olivaceus* (Heer, 1841)	Palaearctic Region
32.	***wagneri*** Rebmann, 1956 *shirozui* S. Hisamatsu, 1965 **(syn. n.)**	SE China (Fujien), Taiwan

2.3. *Meligethes bourdilloni/chinensis*-group

33.	***bourdilloni*** Easton, 1968	Nepal
34.	***chinensis*** Kirejtshuk, 1979	Central and S China (Sichuan, Yunnan)
35.	***henan*** sp. n.	Central China (Henan)
36.	***pseudochinensis*** sp. n.	Central China (Hubei)
37.	***brassicogethoides*** sp. n.	SW China (Yunnan)
38.	***occultus*** sp. n.	SW China (Yunnan)
39.	***schuelkei*** sp. n.	Central China (Sichuan, Shaanxi)
40.	***nigroaeneus*** sp. n.	SW China (Yunnan)
41.	***luteoornatus*** sp. n.	SW China (Yunnan)
42.	***simulator*** sp. n.	Central China (Gansu, Shaanxi)
43.	***pallidoelytrorum*** Chen et Kirejtshuk, 2013	Central China (Sichuan)

2.4. *Meligethes pectoralis*-group

44.	***pectoralis*** Rebmann, 1956	SE China, Taiwan, S Japan
45.	***lloydi*** Easton, 1968	Nepal, SW China (Yunnan)
46.	***pseudopectoralis*** sp. n.	SW China (Yunnan)
47.	***sadanarii*** S.-T. Hisamatsu, 2009	Taiwan

2.5. *Meligethes ferrugineus*-group

48.	***ferrugineus*** Reitter, 1873	N India (Sikkim)
49.	***ferruginoides*** sp. n.	Central China (Sichuan)
50.	***castanescens*** Grouvelle, 1903	N India (Darjeeling), S China
51.	***xenogynus*** sp. n.	S and central China (Yunnan, Sichuan, Shaanxi)
52.	***shirakii*** S. Hisamatsu, 1956 *zakharenkoi* Kirejtshuk, 2005 **(syn. n.)**	S Japan (Kyū-Shū, Amami Islands), SE China (Guizhou, Zhejiang), Taiwan

2.6. *Meligethes aurantirugosus*-group

53.	***aurantirugosus*** sp. n.	W Nepal

arched impression of outer "axillary" line; large and deeply impressed arched impressions on basal portion of last visible abdominal ventrite, partially covered by distal portion of penultimate visible abdominal ventrite (Fig. 1 f). Last visible abdominal ventrite without secondary sexual characters.

Appendages: male 1st antennomere 0.8-1.0X as long as width of protibiae excluding distal teeth (Figs 2 a-b, 3 a, 18-22); 3rd antennomere usually 2.7-3.0X as long as wide in both sexes, 1.2-1.4X longer and distinctly thinner than 2nd antennomere (Fig. 2 a); 4th and 5th antennomeres subequal in both sexes, variably shaped, usually relatively short, moderately longer than wide (Fig. 2 a), but markedly longer in some species of the *M. auripilis/binotatus* complex (Figs 18-22); antennal club compact, usually moderately large, simple, comprising last 3 antennomeres in both sexes (Fig. 2 a), usually as wide as width of protibiae, sexual dimorphism nearly absent; labial palpi long and slender in both sexes (Fig. 2 b), terminal segment 1.9-2.1X as long as wide; maxillary palpi long and slender in both sexes (Fig. 2 b), terminal segment 2.7-2.9X as long as wide; mandible mid-sized, length variable, apex bifid, moderately acuminate, sexual dimorphism absent; tarsal claws variable, strongly toothed at base (Fig. 2 d), minutely and bluntly toothed at base (Fig. 2 e), or simple and not toothed (Fig. 2 c); tarsi usually moderately short, 0.5-0.6X as long as corresponding tibiae (Figs 18-22); protibiae usually with small and short teeth on their outer margins (Figs 1 e, 3 a), separated each other by small conical spiculae, the latter exhibiting a markedly concave base (Fig. 1 e), where a minute protibial protrusion is placed; lateral margin of meso- and metatibiae bearing a single and regular row of long and relatively thin pegs, without U-shaped sinuosity at distal third; meso- and metatibiae of variable width, usually long and slender (Figs 18-22), rarely wider and shorter, never subtrapezoidal or axe-shaped; no significant sexual dimorphism in meso- and metatibiae shape and armature; tarsal plates of prolegs wider in males; posterior margin of metafemora simple in both sexes, without tubercles or projections.

Male genitalia: variable, strong and long processes along inner side of paramera absent (e.g., Figs 4 a, 6 a), or reduced to small pigmented projections (e.g., Figs 7 a, 8 a, 9 e), usually with deep and narrow (mostly V- or U-shaped) mesial excision along distal margin, without deep median longitudinal desclerotization from proximal portion of tegmen extending to mesial distal V-shaped excision (Figs 4-13); median lobe of aedeagus variably shaped (Figs 4-13), without lateral emargination, rounded, distally subtruncate to acuminate, frequently with distal minute excision or emargination (e.g., Figs 4 b, 6 b); main sclerites of internal sac (flagellum) variable in sizes but usually large (0.2-0.7X shorter than aedeagus), arcuate, usually fork-shaped or rod-shaped in ventral view, hook-shaped or again rod-shaped in lateral view, and more or less markedly sclerotized (Figs 4-13).

Female genitalia (ovipositor): triangular, usually large and markedly sclerotized, with the single exception of *M. xenogynus* sp. n. (Fig. 17 h), where is peculiarly small and poorly sclerotized; styli usually short (rarely long) but always distinct, simple and pigmented, inserted more or less close to apex of typically contiguous or rarely narrowly diverging gonocoxites (Figs 14-17); each gonocoxite distally unpigmented, with a simple, never indented outer portion of basicoxites (Figs 14-17), and a single, narrow, slightly pigmented and sclerotized outer subdivision along the outer portion of gonocoxites . "Central point" of ovipositor usually located more distad than middle, in most cases without proximad directed spicule.

Taxonomic remarks. Presence of toothed or untoothed tarsal claws within the here treated clade was previously considered an additional important character to distinguish two different subgenera, i.e. *Meligethes* s. str. and *Odonthogethes* Reitter 1871 (Reitter, 1871; Rebmann 1956a, b; Easton 1956a, 1957a, 1968). More recently, these two taxa were treated (Kirejtshuk 1988, 1992; Jelínek & Audisio 2007) as synonyms or as no more than natural lineages (the *M. atratus* and *M. denticulatus* lineages, respectively). Members of the *Meligethes atratus* lineage combine the above listed generic characters with simple, not toothed tarsal claws (Fig. 2 c); members of the *Meligethes denticulatus* lineage combine the above listed generic characters with strongly toothed tarsal claws (Fig. 2 d); the single *Meligethes flavicollis* Reitter, 1873 (from Russian Far East, E China and Japan; Easton 1956a, 1957a; S.-T. Hisamatsu 2009) shows tarsal claws minutely and obtusely toothed (Fig. 2 e), then occupying a taxonomic position somewhat intermediate between the two lineages.

Presence or absence of toothed tarsal claws in Meligethinae is probably the result of a random activation/inactivation and fixation along the same clade of a homeotic gene controlling this character, then not necessarily holding phylogenetic relevance. E.g., in several cases within the large South African *Afrogethes amplicollis* (Boheman, 1851) group, members of sister species pairs within the same species complex frequently share very similar genitalia and are taxonomically differentiated mainly or exclusively by presence/absence of toothed tarsal claws (Audisio 1997, and unpublished data; Audisio et al. 2009). This evidence could then suggests to include all the involved taxa in a single natural group of species, but in *Meligethes* it is evident that presence of toothed tarsal claws is actually congruent with an apparently natural lineage (the *M. denticulatus* lineage, i.e. the subgenus *Odonthogethes*; also *Meligethes flavicollis* is to be included here, see S.-T. Hisamatsu 2009), and then to be considered a shared synapomorphy within the *Meligethes* clade, as confirmed by an other shared synapomorphy of all members of the subgenus *Odonthogethes*, i.e. the position of postocular lateral subcircular pit outside the antennal grooves (Fig. 1 b). Absence of toothed tarsal claws, on the other hand, is shared by several distinct groups and complexes, not all being very

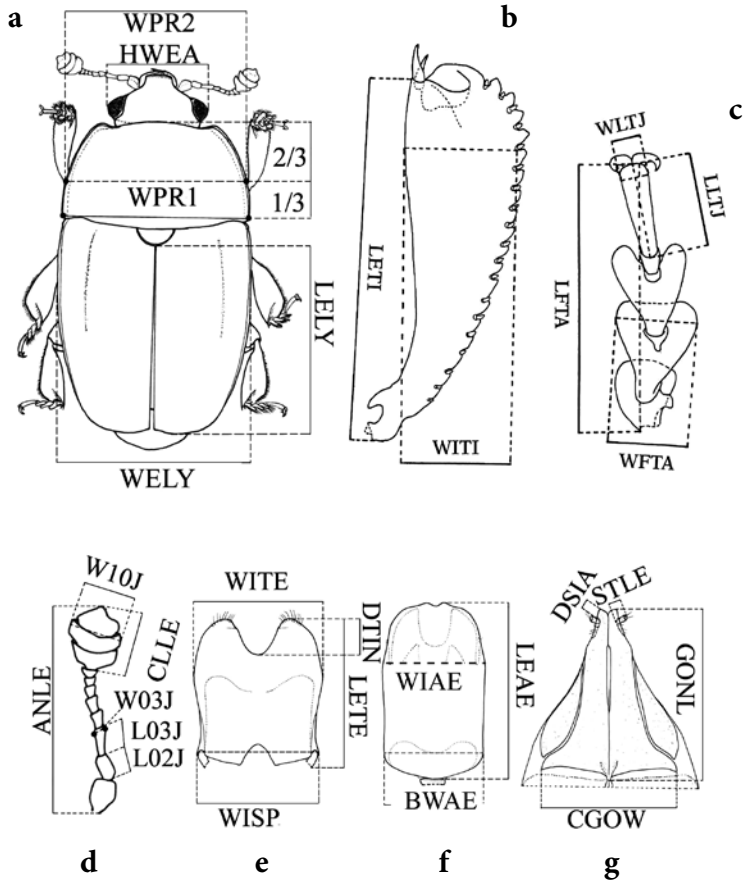

Fig. 3 − Scheme of the measurements used in Meligethinae taxonomy and morphometry (acronyms detailed in Material and methods): **a**, body shape; **b**, protibia; **c**, protarsus; **d**, antenna; **e**, tegmen; **f**, median lobe of the aedeagus; **g**, distal portion (usually the distal three/sevenths or the distal half) of the ovipositor.

closely related each other, within a likely monophyletic *Meligethes* s. str., and it could likely be considered a symplesiomorphy within this taxon. However, combining the above discussed evidences, we decided herein to revaluate *Odonthogethes* and *Meligethes* s. str. to subgeneric rank.

Phylogenetic position

Available molecular and morphological datasets provide strong and concordant evidence of the robustness of a relatively large clade that includes *Meligethes*, *Brassicogethes*, *Meligethinus* Grouvelle, 1906, and likely also *Micropria* Grouvelle, 1899 (Strika 2004; Trizzino et al. 2009; Audisio et al. 2008, 2009, 2014, and unpublished data). With regards to *Meligethes* and the above cited more closely related taxa, these genera exhibit a series of mainly plesiomorphic characters, provided in the above generic diagnosis, which suggest their relatively isolated phylogenetic position in the Meligethinae, with probably closer affinities to members of the [*Pria* Stephens, 1830 + *Microporum* Waterhouse, 1876] complexes of genera, rather than to other genera formerly included in *Meligethes* s.l. A recent article (Audisio et al. 2014) reports some preliminary results of a series of molecular analyses, based on both mitochondrial and nuclear genes, clearly demonstrating that *Meligethes* is sister to *Brassicogethes* Audisio & Cline, 2009, and both taxa are closely related with *Meligethinus* Grouvelle, 1908, and with other genera of the [*Pria* Stephens, 1830 + *Microporum* Waterhouse, 1876] complexes of genera. All these taxa being on the contrary distantly related with all other members of the previously polyphyletic "genus" *Meligethes* s.l. and its believed "subgenus" *Clypeogethes* Scholz, 1921, as recently reproposed by Kirejtshuk & Kirejtshuk (2012).

Biology

As reported above in Introduction, all the known species are very likely associated with members of the plant family Rosaceae (but life history of only a limited portion of the included Eastern Palaearctic species is known with certainty), and larval development occurs within the usually large floral corollas of members of this plant family (Ormerod 1874; Hayashi 1978; Audisio 1993). Species more closely related to *Meligethes atratus* and allies are mostly associated with *Rosa* spp., while species

more closely related to *Meligethes denticulatus* and allies are mostly associated with *Rubus* spp.; but some species are probably also associated with *Prunus* L., *Pyrus* L., and *Crataegus* Tourn. ex L. (Audisio 1993, and unpublished data; Audisio et al. 2009; S.-T. Hisamatsu 2009).

It is worth to note that *Rosa* and *Rubus* are considered to be sister taxa in a phylogenetic perspective, and *Rosa*, *Rubus* and *Prunus* are closely related to each other from morphological and molecular points of view (Alice & Campbell 1999; Bortiri et al. 2001; Hummer & Janick 2009).

Most known *Meligethes* are associated with Chinese subtropical evergreen broadleaf-forest Vegetational Zone (Fig. 23).

1. subg. *Meligethes* s. str. (= *Meligethes atratus* lineage)
Members of this lineage combine always simple (never markedly toothed or at least obtusely toothed) tarsal claws (Fig. 2 c), microsetae of middle portion of the posterior edge of pronotum (in front of scutellum) more distinctly visible, shaped nearly as in Fig. 1 c but larger, usually nearly as long as width of 7th antennomere, temples behind eyes (postero-lateral view) on each side always with a deep subcircular pit placed at the end of antennal grooves (Fig. 1 a), well within the distal edges of the latter, tegmen frequently with more or less distinct projections along the distal inner edge of the paramera, and relatively shorter distal setae on paramera, the longest setae exhibiting a ratio THLE/LETE= 0.04-0.11 (Figs 4-13).

1.1. The *Meligethes atratus*-group
Members of this species group combine simple tarsal claws, almost truncate anterior margin of clypeus, body relatively short and wide, blackish or blackish-violet dorsal coloration, dorsally with short, fine, prostrate and usually uniform silvery-golden pubescence, usually not hindering dorsal surface (Figs 18-22). Dorsal punctures on discal portion of head and pronotum distinctly smaller than eye facets, dense, moderately impressed; dorsal punctures on discal portion of elytra distinctly smaller than eye facets, more dense, shallowly impressed. Interspaces between frontal and pronotal punctures usually smooth and shining, sometimes with faint traces of reticulation; interspaces between elytral punctures usually more densely reticulate and duller than pronotum. Elytra with simple punctation, or distinctly transversely strigose, or only with feeble traces of strigosity around scutellum. Posterior pronotal angles distinctly projecting backwards (Figs 18-22). Elytral apices truncately rounded in both sexes, never lobed (Figs 3 a, 18-22). Ratio WPR2/WELY= 0.90-1.01 (Figs 18-22). Apex of pygidium blunt, rounded and not projecting backwards in both sexes (Figs 18-22), minutely acutely pointed in both sexes only in *M. hammondi* (Fig. 18 c). Metaventrite in both sexes without marked impressions and tufts of erect hairs. Antennae usually with relatively long flagellum and middle-sized antennal club (ratio ANLE/HWEA= 0.87-0.98; ratio CLLE/W10J= 1.25-1.48; ratio CLLE/ANLE= 0.29-0.30). Protarsi usually rather long in relation with corresponding tibiae, ratio LFTA/LETI≈ 0.7 (Figs 18-22) . Posterior tibiae in both sexes wide and flat, their inner edge markedly convex, ratio WPTI/LPTI= 0.33-0.40 (Figs 18-22). Inner margins of parameres with more or less distinct projections (Figs 4 d, 5 a, 5 e, 5 i) or without distinct projections (Figs 4 a, 4 g); distal setae of parameres comparatively short (Figs 4-5; ratio THLE/LETE= 0.06-0.08). Apex of aedeagus obtusely narrowed, with minute and shallow median incision (Figs 4 b, 4 h, 5 b, 5 f, 5 j), or widely truncated-spatulate (Fig. 4). Main sclerites of endophallus large, widely fork-shaped or octopus-shaped in dorsal view, and peculiarly wide, hook-shaped on both sides in lateral view (typically ratio LSIS/LEAE≈ 0.5 or more, and ratio WSIS/LSIS≈ 0.5; Figs 4 c, 4 f, 4 i, 5 c-d, 5 g-h). Apex of ovipositor with minutely truncate, obtusely pointed or minutely divergent apices of the gonocoxites (Figs 14 a-f); styli usually short, inserted not far from apex (ratio STLE/CGOW= 0.05-0.09; ratio STLE/DSIA= 0.5-0.9).

The included species range from Western Europe to Japan, continental China and Taiwan.

1. *Meligethes flavimanus* Stephens, 1830

Nitidula rufipes var."B" Gyllenhal, 1808: 235, nec *Nitidula rufipes* (Linnaeus, 1767): 573, nec *Nitidula rufipes* Marsham, 1802: 130
Meligethes flavimanus Stephens, 1830: 46
Meligethes lumbaris Sturm, 1845: 7
Meligethes borealis Motschulsky, 1845: 364
Meligethes foersteri Reitter, 1871: 54
Meligethes foveifrons Reitter, 1871: 55
Meligethes asperrimus Guillebeau, 1897: 225 [see Audisio et al. 2003, p. 127]
Meligethes ogumae Matsumura, 1911: 116
Meligethes lumbaris ssp. *sibiricus* Rebmann, 1956b: 127

Type locality. United Kingdom, England, Suffolk (Stephens 1830; cited also from Galles, Swansea).

Holotype. BMNH.

Diagnosis. *Meligethes flavimanus* can be easily differentiated by the related members of the *M. atratus* complex, by its blackish dorsal colouration without any metallic or sericeous violet lustre, its dorsally moderately convex body, and its usually not evidently strigose elytra, combined with the peculiar shape of male genitalia, characterized by widely truncate and spatulated aedeagal distal portion, and of the ovipositor, characterized by narrowly pointed apex. Distinguished by the widely sympatric and frequently syntopic *Meligethes atratus* by the usually much less marked elytral strigosity, the slightly more convex body, and the markedly different shape of tegmen, aedeagus, and ovipositor.

Description

Size: Length 2.0-4.0 mm, width 1.2-2.2 mm.

Body color and pubescence: dorsal and ventral body surface entirely black or blackish-brown (Fig. 18b); pronotal and elytral sides typically same color as disc or slightly paler, piceous-brown. Legs and antennae usually yellowish to orange-yellowish, with darker, blackish-brown antennal club. Pubescence short, fine, silvery-golden, uniformly developed.

Dorsal habitus: body moderately convex, wide and oval (Fig. 18 b); ratio LPR1/LELY = 0.48-0.53; ratio WPR1/LPR1 = 1.83-1.90; ratio WPR2/LPR1 = 1.91-1.94; ratio WPR2/WPR1= 1.00-1.02; ratio LELY/WELY = 0.98-1.03; ratio WPR1/WPRA = 1.60-1.65; ratio WPR1/WELY = 0.94-0.98; ratio WPR2/WELY = 0.97-1.00; pronotum with distinct posterior angles (Fig. 18 b), only slightly projecting backwards. Elytral punctures finer and more dense than those of pronotum, smaller in size to eye facets, more oval, usually without markedly distinct transversal strigosity (frequently more distinct only around scutellum, with orange-peel like appearance), punctures usually separated by less than one diameter in longitudinal direction and by less than half diameter in transverse direction, but variable in density and in distinctness of transversal strigosity. Interspaces between pronotal punctures usually rather smooth and shining; interspaces between elytral punctures usually more reticulated and duller.

Ventral habitus: Metaventrite in both sexes flattened or gently depressed behind its midlength, shining, the mediolongitudinal line hardly impressed (slightly more distinctly in males than in females).

Appendages: antennae comparatively short, with relatively large and short club (Fig. 18 b), exhibiting ratio ANLE/HWEA = 0.88-0.92; ratio CLLE/W10J = 1.35-1.45; ratio L03J/W03J = 2.95-3.10; ratio L03J/L02J = 1.35-1.40; ratio L03J/L04J =1.55-1.60. Male protarsal plates (Fig. 18 b) distinctly wider than in females, ratio WFTA/LFTA= 0.29-0.32 (ratio WFTA/LFTA = 0.25-0.27 in females); protibiae with minute rather sharp teeth on distal half of their outer margins (Fig. 18 b), exhibiting a ratio LETI/WITI = 3.2-3.5 in males, ≈ 3.4-3.6 in females.

Male genitalia: shape of tegmen and aedeagus as figured (Figs 4 d-e), characterized by short parallel-sided aedeagus (ratio LEAE/WIAE = 1.76-1.82), peculiarly bottleneck-shaped pre-distally, and shortly spatulate-truncated at apex. Medial distal excision of tegmen narrow and relatively deep, narrowly U-shaped, its distal inner edge with marked angulosity; ratio LETE/WITE = 1.22-1.25; ratio DTIN/LETE ≈ 0.34. Main sclerites of internal sac (endophallus) large, fork-shaped in dorsal view, and hook-shaped on both sides in lateral view (Fig. 4 f); ratio LSIS/LEAE ≈ 0.42; ratio WSIS/LSIS ≈ 0.5.

Female genitalia (ovipositor): distal apex as figured, gonocoxites with narrowly pointed apex (Fig. 14 b), without distal emargination; styli middle-sized, inserted distinctly before apex (ratio STLE/DSIA ≈ 0.6; ratio STLE/CGOW ≈ 0.09; ratio GONL/CGOW ≈ 1.4). Basal portion of gonocoxites slightly directed distad. Ratio OVPL/GONL ≈ 2.40.

Variation: This species is markedly variable for body sizes and convexity, and for elytral strigosity, usually absent but frequently at least partially evident, chiefly in the circum-scutellar area. In populations from NE Palearctic (NE Siberia, Japan, and neighbouring areas), pronotal pubescence is usually longer, silvery-golden and more developed than in W European populations.

Material examined. Nearly four hundred specimens from Europe, eastern Turkey, Caucasus, W and E Siberia. Complete list omitted except for the following first records from China and N Korea: **China:** Jilin prov., Dun Hua, 800 m, 43.19.555N, 127.48.827E, 29 May 2007, P. Zahradník lgt., 1 ♀ (NMPC). **Northern Korea**: Čhŏngdžin-si province, pass Musan-rjŏng ca 60 km N of Čhŏngdžin, 2 May 1965, M. Mroczkowski and A. Riedel lgt, 1 ♂ (PANW).

Distribution. **WPA:** AB, AL, AN, AR, AU, BE, BH, BU, BY, CR, CT, CZ, DE, EN, FI, FR–FRA, GB, GE, GG, GR, HU, IN, IR, IT–ITA, LA, LS, LT, MC, MD, MT, NL, NR, NT, PL, PT, RO, RU, SE, SK, SL, SP, ST, SV, SZ, TR, UK. **EPA:** ES, FE, JIL, KI, KZ, MG, NC, RU, TD, TM, UZ, WS.

M. flavimanus has a wide geographic distribution in most of Western Palearctic areas (excluding North Africa, Corso-Sardinia, and Macaronesia), northwards to high latitudes in Scandinavian areas, eastwards to Russian eastern Siberia including Sakhalin and northwestern China province Jilin (Kirejtshuk 1992, Audisio 1993; Jelínek & Audisio 2007).

Chorotype. Euroasiatic.

Host-plants. Amply oligophagous, regularly associated as larvae with flowers of native and (rarely) cultivated *Rosa* spp. (Rosaceae), chiefly *Rosa canina* L., *R. pimpinellifolia* L., *R. gallica* L., *R. pendulina* L., and allied species, but probably developing also on other wild Rosaceae in the genera *Prunus* L., *Pyrus* L., and *Crataegus* Tourn. ex L. (Audisio 1993, and unpublished data). Adults, at least before and later their reproductive period, appear to be amply polyphagous, being frequently present on flowers and inflorescences of several different plant families, chiefly bushes and small trees.

Habitat. Xeric clearings at forest margins, stream sides, edges of rocky habitats, open low and middle altitude xerophilous scrubs in Querco-Fagetea formations, chiefly in associations of the order *Prunetalia spinosae*; at least between the sea level and 1600-2000 m, more common and widespread at low and intermediate altitudes (200-1000 m).

Phenology. III-IV-**V-VI-VII-VIII**-IX-X.

DNA data. Complete sequences of nuclear ITS2 + PEP-CK and mtCOI genes are available for this species (Trizzino et al. 2009; Audisio et al. 2014).

Taxonomic remarks. *Meligethes flavimanus* is a member of the *M. atratus* species-complex; within this clade, even though its male and female genitalia are markedly distinct, its body shape and the shape of its main sclerites of internal sac (endophallus), very similar to those of the widespread *M. atratus,* strongly suggest a strict phylogenetic relationship to this widely sympatric species.

2. *Meligethes atratus* (Olivier, 1790)

Nitidula atrata Olivier, 1790, 12: 18
Nitidula rufipes Marsham, 1802: 130, nec *Nitidula rufipes* (Linnaeus, 1767): 573

Type locality. France, near Paris (Olivier 1790).

Holotype. MNHN.

Diagnosis. *Meligethes atratus* can be easily differentiated by the related eastern Palearctic members of its complex, except *M. torquatus* and *M. hammondi*, by the blackish dorsal colouration without any metallic or sericeous violet lustre, the dorsally less convex body, the usually markedly strigose elytra, and by the shape of male and female genitalia. Distinguished by *Meligethes torquatus* by the different shape of male genitalia, chiefly the more widely and bluntly incised distal apex of the aedeagus, the usually darker, dark-brown, explanate sides of pronotum, and the wider front tibiae and male protarsal plates. Distinguished by *Meligethes hammondi* by the different shape of male genitalia, chiefly the more widely and bluntly incised distal apex of the aedeagus, the usually paler legs and antennae, the wider front tibiae and male protarsal plates, and the not pointed pygidium in both sexes. Distinguished by the widely sympatric and frequently syntopic *Meligethes flavimanus* by the usually more marked elytra strigosity, the slightly less convex body, and the different shape of tegmen, aedeagus, and ovipositor.

Description
Size: Length 2.3-4.2 mm, width 1.2-2.2 mm.
Body color and pubescence: dorsal and ventral body surface entirely blackish-brown (Fig. 18 a); pronotal and elytral sides typically same color as disc or slightly paler, piceous-brown. Legs and antennae usually yellowish to orange-yellowish, with darker, blackish-brown antennal club. Pubescence relatively short, fine, silvery-golden.
Dorsal habitus: body scarcely convex, wide and oval (Fig. 18 a); ratio LPR1/LELY = 0.47-0.59; ratio WPR1/LPR1 = 1.73-1.78; ratio WPR2/LPR1 = 1.74-1.80; ratio WPR2/WPR1 = 1.00-1.02; ratio LELY/WELY = 0.90-1.06; ratio WPR1/WPRA = 1.60-1.65; ratio WPR1/WELY = 0.95-1.00; ratio WPR2/WELY = 0.96-1.01; pronotum with distinct posterior angles (Fig. 18 a), moderately distinctly projecting backwards. Elytral punctures finer and more dense than those of pronotum, smaller in size to eye facets, oval, usually with markedly distinct and almost complete transversal strigosity, punctures usually separated by less than one diameter in longitudinal direction and by less than half diameter in transverse direction, but variable in density and in distinctness of transversal strigosity. Interspaces between pronotal punctures usually rather smooth and shining; interspaces between elytral punctures usually more reticulated and duller.
Ventral habitus: metaventrite in both sexes flattened or gently depressed behind its midlength, shining, the mediolongitudinal line hardly impressed (slightly more distinctly in males than in females).
Appendages: antennae comparatively short, with moderately large and short club (Fig. 18 a), exhibiting ratio ANLE/HWEA = 0.87-0.91; ratio CLLE/W10J = 1.25-1.35; ratio L03J/W03J = 2.95-3.10; ratio L03J/L02J = 1.28-1.40; ratio L03J/L04J =1.50-1.65. Male protarsal plates (Fig. 18 a) distinctly wider than in females, ratio WFTA/LFTA = 0.33-0.35 (ratio WFTA/LFTA = 0.24-0.27 in females); protibiae with minute rather sharp teeth on distal half of their outer margins (Fig. 18 a), exhibiting a ratio LETI/WITI ≈ 3.3-3.5 in males, ≈ 3.5-3.6 in females.
Male genitalia: shape of tegmen and aedeagus as figured (Figs 4 a-b), characterized by short parallel-sided aedeagus (ratio LEAE/WIAE = 1.78-1.82), shortly and bluntly narrowed distad, with shallowly and minutely arcuated median emargination. Medial distal excision of tegmen relatively wide and deep, widely U-shaped, its inner margins with minute prominence; ratio LETE/WITE ≈ 1.20; ratio DTIN/LETE ≈ 0.25. Main sclerites of internal sac (endophallus) large, fork-shaped in dorsal view, and hook-shaped on both sides in lateral view, as figured (Fig. 4 c); ratio LSIS/LEAE ≈ 0.48; ratio WSIS/LSIS ≈ 0.5.
Female genitalia (ovipositor): distal apex as figured, with minutely obliquely truncated gonocoxites (Fig. 14 a), these combined forming a minute, widely V-shaped emargination; styli short, inserted distinctly before apex (Fig. 14 a; ratio STLE/DSIA ≈ 0.9; ratio STLE/CGOW ≈ 0.07; ratio GONL/CGOW ≈ 1.2). Basal portion of gonocoxites slightly directed proximad. Ratio OVPL/GONL ≈ 2.30.
Variation: this species is markedly variable, chiefly for body sizes, elytral length/width proportions and convexity, and for elytral strigosity marked to scarcely evident, in some specimens reduced to the circum-scutellar area only.

Material examined. Nearly five hundred specimens from Europe, eastern Turkey, Caucasus, and W Siberia. Complete list omitted.

Distribution. **WPA**: AB, AL, AN, AR, AU, BE, BH, BU, BY, CR, CZ, DE, EN, FI, FR–FRA, GB, GE, GG, GR, HU, IN, IR, IT–ITA, IT–SI, LA, LS, LT, MC, MT, NL,

NR, PL, PT, RO, RU, SE, SK, SL, SP, SV, SZ, TR, TU (introduced ?), UK. **EPA:** ES, FE, KI, KZ, MG, NE, NO, NW, UZ, WS.

M. atratus has a wide geographic distribution in most of Western Palearctic areas, excluding North Africa (a single record known from N Tunisia, probably based on anthropogenic introduction: Normand 1949; Easton 1956b; Audisio 1993), Corso-Sardinia and Macaronesia, northwards to high latitudes in Scandinavian areas, eastwards to Russian eastern Siberia. Accidentaly introduced by man also in gardens and greenhouses in E Africa (Tanzania: Easton 1960) and N America (U.S., and Canada: Easton 1955b, 1956b; Audisio 1993; Jelínek & Audisio 2007), but never acclimatized outside Palearctic areas.

Chorotype. Euroasiatic.

Host-plants. Amply oligophagous, regularly associated as larvae with flowers of native and cultivated *Rosa* spp. (Rosaceae), chiefly *Rosa canina* L. and allied species, but probably developing also on other wild Rosaceae in the genera *Prunus* L., *Pyrus* L., and *Crataegus* Tourn. ex L. (Audisio 1993, and unpublished data). Adults, at least before and later their reproductive period, appear to be amply polyphagous, being frequently present on flowers and inflorescences of several different plant families, chiefly bushes and small trees.

Habitat. Xeric clearings at forest margins, stream sides, edges of rocky habitats, open low and middle altitude xerophilous scrubs in Querco-Fagetea formations, chiefly in associations of the order Prunetalia spinosae; at least between the sea level and 1600-2000 m, more common and widespread at low and intermediate altitudes (200-1000 m).

Phenology. III-**IV-V-VI-VII**-VIII.

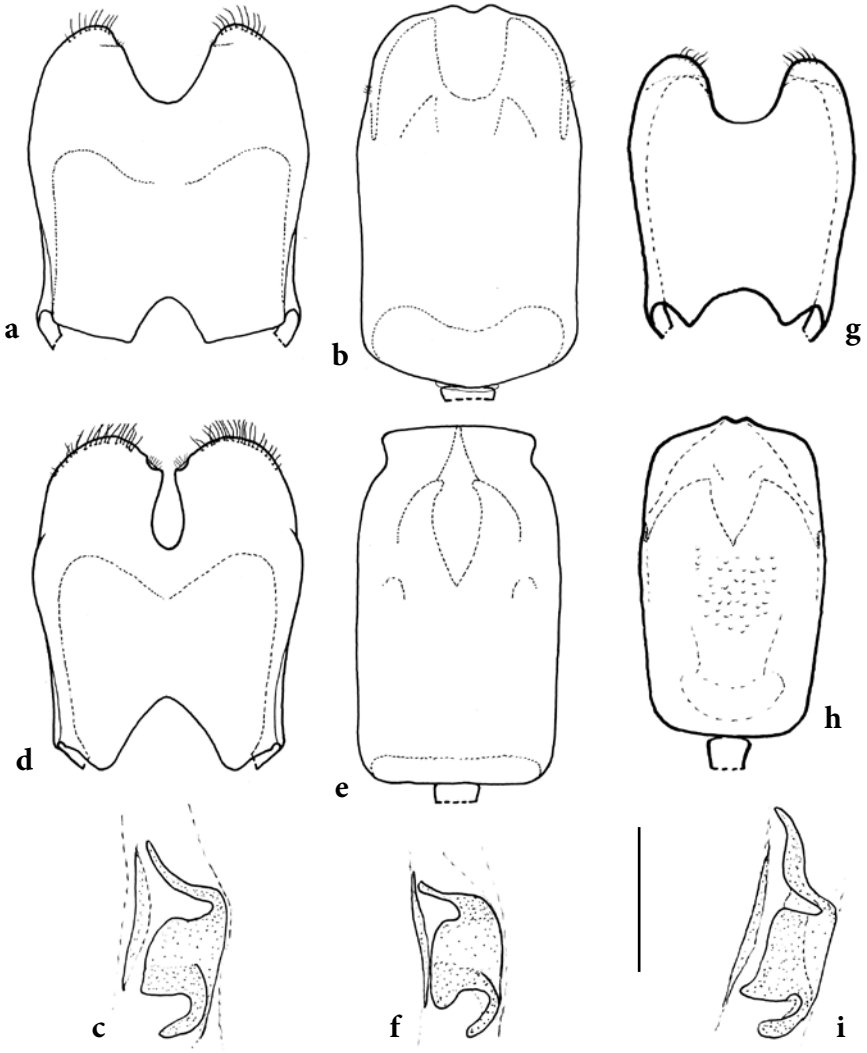

Fig. 4 − Male genitalia of *Meligethes* spp. (**a**, **d**, **g**, tegmen, dorsal view; **b**, **e**, **h**, median lobe of the aedeagus, dorsal view; **c**, **f**, **i**, main sclerites of the aedeagus, lateral view): **a**, **b**, **c**, *M. atratus* (Olivier, 1790); **d**, **e**, **f**, *M. flavimanus* Stephens, 1830; **g**, **h**, **i**, *M. hammondi* Kirejtshuk, 1980. Scale bar: 0.2 mm.

DNA data. Complete sequences of nuclear ITS2 + PEP-CK and mtCOI genes are available for this species (Trizzino et al. 2009; Audisio et al. 2014).
Taxonomic remarks. Within the *Meligethes atratus* species-complex, *M. atratus* exhibits body shape and shape of main sclerites of internal sac (endophallus) very similar to those of the widespread *M. flavimanus*; even though the latter species exhibits male and female genitalia markedly distinct, strict phylogenetic relationships between these couple of widely sympatric species (as well as to the eastern Palaearctic *M. torquatus* and *M. violaceus*) are strongly supported both on morphological and molecular ground (Trizzino et al. 2009; Audisio et al. 2014).

3. *Meligethes hammondi* Kirejtshuk, 1980

Meligethes hammondi Kirejtshuk, 1980: 840

Type locality. Central-northern China, Shaanxi (= Shensi) Province, Hua Shan (Kirejtshuk 1980).

Holotype. BMNH (Kirejtshuk 1980).

Diagnosis. *Meligethes hammondi* can be easily differentiated by the related eastern Palearctic members of the *M. atratus* complex, except *M. atratus* and *M. flavimanus*, by the uniform blackish dorsal colouration without violet, blue-violet, or violet-greenish lustre, combined to dark pronotal sides, and to more or less marked elytral transverse strigosity. Distinguished by *Meligethes atratus* and *M. flavimanus* by its more convex dorsum, the minutely pointed pygidium in both sexes, the darker legs and antennae, by the different shape of male genitalia, chiefly the relatively longer aedeagus, and the more elongate tegmen, this without distinct projection along the inner edge of its U-shaped distal incision, and by the ovipositor exhibiting more blunt lateral distal apices of basicoxites.

Description
Size: Length 2.5-3.2 mm, width 1.2-1.6 mm.
Body color and pubescence: dorsal and ventral body surface blackish (Fig. 18 c); pronotal sides typically the same colour as disk. Legs and antennae usually piceous-brown to blackish-brown, frequently antennomeres ii-vii paler, brownish. Pubescence short, fine, silvery-golden.
Dorsal habitus: body convex, wide and oval (Fig. 18 c); ratio LPR1/LELY = 0.50-0.54; ratio WPR1/LPR1 = 1.80-1.96; ratio WPR2/LPR1 = 1.80-1.95; ratio WPR2/WPR1 = 0.99-1.00; ratio LELY/WELY = 0.90-0.95; ratio WPR1/WPRA = 1.70-1.75; ratio WPR1/WELY = 0.90-0.95; WPR2/WELY = 0.90-0.94; pronotum with distinct posterior angles (Fig. 18 c), rather distinctly projecting backwards. Elytral punctures nearly as on pronotum, smaller in size to eye facets, subcircular, with more or less strong and almost complete transversal strigosity, punctures usually separated by less than one diameter in both longitudinal and transverse direction. Interspaces between pronotal and elytral punctures usually more or less smooth and shining, in some specimens slightly duller. Pygidium in both sexes minutely but rather distinctly pointed at apex (Fig. 18 c).
Ventral habitus: Metaventrite flattened, simple or nearly so in both sexes, without median longitudinal impression.
Appendages: antennae comparatively long, with relatively midlle-sized, moderately elongate club (Fig. 18 c), exhibiting ratio ANLE/HWEA = 0.95-0.98; ratio CLLE/W10J = 1.40-1.48; ratio L03J/W03J = 2.70-2.80; ratio L03J/L02J = 1.18-1.24; ratio L03J/L04J =1.65-1.71. Male protarsal plates (Fig. 18 c) slightly wider than in females, ratio WFTA/LFTA= 0.27-0.29 (ratio WFTA/LFTA = 0.24-0.26 in females); protibiae with minute rather sharp teeth on distal half of their outer margins (Fig. 18 c), exhibiting a ratio LETI/WITI ≈ 3.9-4.4 in males, ≈ 4.0-4.5 in females. Ratio LPTI/WPTI ≈ 3.3 in both sexes.
Male genitalia: shape of tegmen and aedeagus as figured (Figs 4 g-h), characterized by moderately long and parallel-sided aedeagus (ratio LEAE/WIAE = 1.72-1.85), shortly and bluntly narrowed distally, with shallowy and minute median emargination. Medial distal excision of tegmen relatively wide and deep, widely U-shaped, its inner margins without distinct prominence; ratio LETE/WITE = 1.2-1.3; ratio DTIN/LETE ≈ 0.33. Main sclerites of internal sac (endophallus) large, fork-shaped in dorsal view, and hook-shaped on both sides in lateral view, as figured (Fig. 4 i); ratio LSIS/LEAE ≈ 0.70; ratio WSIS/LSIS ≈ 0.35.
Female genitalia (ovipositor): distal apex as figured, with minutely obliquely truncated gonocoxites (Fig. 14 c), these combined forming a minute, widely V-shaped emargination; styli short, inserted distinctly before apex (Fig. 14 c; ratio STLE/DSIA ≈ 0.7; ratio STLE/CGOW ≈ 0.06; ratio GONL/CGOW ≈ 1.2). Basal portion of gonocoxites slightly directed distad. Ratio OVPL/GONL ≈ 2.35.
Variation: This species is moderately variable, chiefly for body sizes and convexity, dark colouration of antennae, relatively shining or duller dorsal surface between punctures, and more or less marked elytral strigosity.

Material examined. **China**: Shaanxi (= Shensi) Province, Hua Shan, 31 Jul 1966, P.M. Hammond lgt, ♂ holotype and one ♀ paratype (BMNH); Shanxi Province, Yongji near Wulaofeng, 29 May-1 Jun 2011, E. Kučera lgt, 2 ♀♀ (NMPC, CAR); Henan Province (W portion), Funiu Shan, Baotianman, 33.31N, 111.56E, 1500-1750 m, 6-7 Jul 2006, J. Turna lgt, 5 ♂♂, 3 ♀♀ + 50 specimens (NMPC, CAR); Henan Province (W portion), Funiu Shan, Shirenshan, 33.42N, 112.15E, 1500 m, 7-8 Jul 2007, J. Turna lgt, 5 ♂♂, 3 ♀♀ + 23 specimens (NMPC, CAR); Henan Province (W portion), Quanbaoshan, 34.07N, 111.25E, 1600-2000 m, 23-24 May 2010, J. Turna lgt, 2 ♂♂, 3 ♀♀ + 8 specimens (NMPC, CAR); Sichuan Province, Juizhaigou, 10-12 Jun 2007, 1 ♀ (NMPC); ibidem, 13-19 Jun 2009, E.

Kučera lgt, 1 ♂, 3 ♀♀ (NMPC, CAR); Sichuan Province, near Maoxian, 2600-3000 m, 29 Jun 2003, S. Murzin lgt, 1 ♂ (NMPC).

Distribution. **EPA**: SHA, SHX, HEN, SCH.
M. hammondi has a rather restricted geographic distribution in central-eastern provinces of China (Kirejtshuk 1980; Jelínek & Audisio 2007).

Chorotype. Central Chinese endemic.

Host-plants. Unknown. Probably associated as larvae with flowers of native and cultivated *Rosa* spp., or of other wild Rosaceae.

Habitat. forest margins, stream sides, scrubs; apparently at intermediate-high altitudes (1500-2800 m).

Phenology. V-**VI-VII**. Collected so far from late May to late July, but probably active at least from May to August.

DNA data. Not available.

4. *Meligethes torquatus* Jelínek, 1997

Meligethes torquatus Jelínek, 1997: 128

Type locality. Taiwan, Kuanshan trail at Kuanshanchi River (Jelínek 1997).

Holotype. NMPC.

Diagnosis. *Meligethes torquatus* can be easily differentiated by the related eastern Palearctic *M. violaceus* and *M. cyaneus* by the blackish dorsal colouration without any metallic greenish-violet lustre, but with reddish-yellowish pronotal sides, by the shape of male and female genitalia, and by the markedly strigose elytra. Distinguished by *Meligethes atratus* by the different shape of male genitalia, chiefly the more narrowly incised distal apex of the aedeagus, the usually paler, yellowish-brown, explanate sides of pronotum, the dorsally slightly less convex body, and the slightly narrower front tibiae and male protarsal plates. Distinguished by *Meligethes hammondi* by the slightly different shape of male genitalia, the much paler, yellowish-brown or orange, explanate sides of pronotum, the paler legs and antennae, the dorsally less convex body, the wider front tibiae and male protarsal plates, and the simple, not minutely pointed, apex of pygidium in both sexes.

Description
Size: Length 2.4-3.2 mm, width 1.4-1.8 mm.
Body color and pubescence: dorsal and ventral body surface entirely black (Fig. 18 d); pronotal explanate sides typically yellowish-brown or orange, usually much paler than disc. Legs usually yellowish to orange-yellowish, antennae usually blackish-brown with first two antennomeres yellowish-brown. Pubescence short, prostrate, silvery-golden.
Dorsal habitus: body scarcely convex, wide and oval (Fig. 18 d); LPR1/LELY= 0.55-0.58; WPR1/LPR1= 1.88-1.94; WPR2/LPR1= 1.90-1.97; WPR2/WPR1= 1.00-1.02; LELY/WELY= 0.86-0.93; WPR1/WPRA= 1.63-1.72; WPR1/WELY= 0.91-0.98; WPR2/WELY= 0.92-1.00; pronotum with distinct posterior angles (Fig. 18 d), rather distinctly projecting backwards. Elytral punctures finer and more dense than those of pronotum, smaller in size to eye facets, oval, usually with markedly distinct and almost complete transversal strigosity, punctures usually separated by less than one diameter in longitudinal direction and by less than half diameter in transverse direction, slightly variable in distinctness of transversal strigosity. Interspaces between pronotal punctures usually rather smooth and shining, with traces of reticulation and of transversal strigosity posteriorly; interspaces between transversely rugose-strigose elytral punctures usually more reticulated and duller.
Ventral habitus: Metaventrite simple or nearly so in both sexes, flattened or gently depressed behind its midlength.
Appendages: antennae comparatively short, with relatively large and short club (Fig. 18 d), exhibiting ratio ANLE/HWEA= 0.90-0.92; ratio CLLE/W10J= 1.27-1.31; ratio L03J/W03J= 2.70-2.95; ratio L03J/L02J= 1.20-1.25; ratio L03J/L04J=1.62-1.70. Male protarsal plates (Fig. 18 d) moderately wider than in females, ratio WFTA/LFTA= 0.31-0.33 (ratio WFTA/LFTA= 0.24-0.26 in females); protibiae with minute rather sharp teeth on distal half of their outer margins (Fig. 18 d), exhibiting a ratio LETI/WITI= 3.9-4.2 in males, ≈ 4.0-4.4 in females.
Male genitalia: shape of tegmen and aedeagus as figured (Figs 5 a-b), characterized by moderately long parallel-sided aedeagus (ratio LEAE/WIAE = 1.82-1.88), bluntly narrowed distally, with narrow and shallow median excision. Medial distal excision of tegmen relatively wide and deep, widely U-shaped, its inner margins with blunt minute prominence; ratio LETE/WITE = 1.35-1.40; ratio DTIN/LETE ≈ 0.33. Main sclerites of internal sac (endophallus) large, fork-shaped in dorsal view, and hook-shaped on both sides in lateral view, as figured (Figs 5 c-d); ratio LSIS/LEAE ≈ 0.60; ratio WSIS/LSIS ≈ 0.5.
Female genitalia (ovipositor): distal apex as figured, with obliquely truncated gonocoxites (Fig. 14 e), these combined forming a distinct, widely V-shaped emargination; styli short, inserted distinctly before apex (Fig. 14 e; ratio STLE/DSIA ≈ 0.7; ratio STLE/CGOW≈ 0.07; ratio GONL/CGOW ≈ 1.1). Basal portion of gonocoxites slightly directed proximad. Ratio OVPL/GONL ~ 2.80.
Variation: This species is markedly variable, chiefly for body sizes and convexity, and for elytral strigosity-rugosity more or less markedly developed.

Material examined. **Taiwan**: Kaohsiung Hsien, Kuanshan trail at Kuanshanchi River, 2400 m, 20 Apr 1992, A. Smetana lgt, ♂ holotype and ♀ paratype (NMPC); Nantou Hsien, Sun Kang, 1600 m, 17 Apr 1991, Lo lgt 1 ♂, 2 ♀♀ (CAR, NMPC, NHMW); Nantou Hsien, Yuanfeng, Ren-ai Township [≈ 1100 m], 27 Jun 2006, S.-T. Hisamatsu lgt, 5 ♂♂, 6 ♀♀ (CHHU, CAR, NMPC); Sungkang-Meifeng, 2044-2122 m, 18 May 1970, M. Takagi lgt, 5 ♂♂, 6 ♀♀ (CHHU, CAR, NMPC). Additional material from Taiwan recently studied by specialists is reported by S.-T. Hisamatsu (2009).

Distribution. **EPA**: TAI.
M. torquatus is apparently endemic to Taiwan (= Formosa) Island.

Chorotype: Taiwanese endemic.
Host-plants. Collected on wild Rosaceae in the genus *Prunus* L., chiefly *P. phaeosticta* (Hance) Maxim. (S.-T. Hisamatsu 2009, and unpublished data). Adults, at least before and later their reproductive period, appear to be more amply polyphagous, being present on flowers and inflorescences of different plant families.

Habitat. Xeric clearings at forest margins, stream sides, edges of rocky habitats, open middle altitude scrubs, at least between 1100-2500 m.

Phenology. IV-**V**-**VI**-VII.

DNA data. Complete sequences of nuclear ITS2 + PEP-

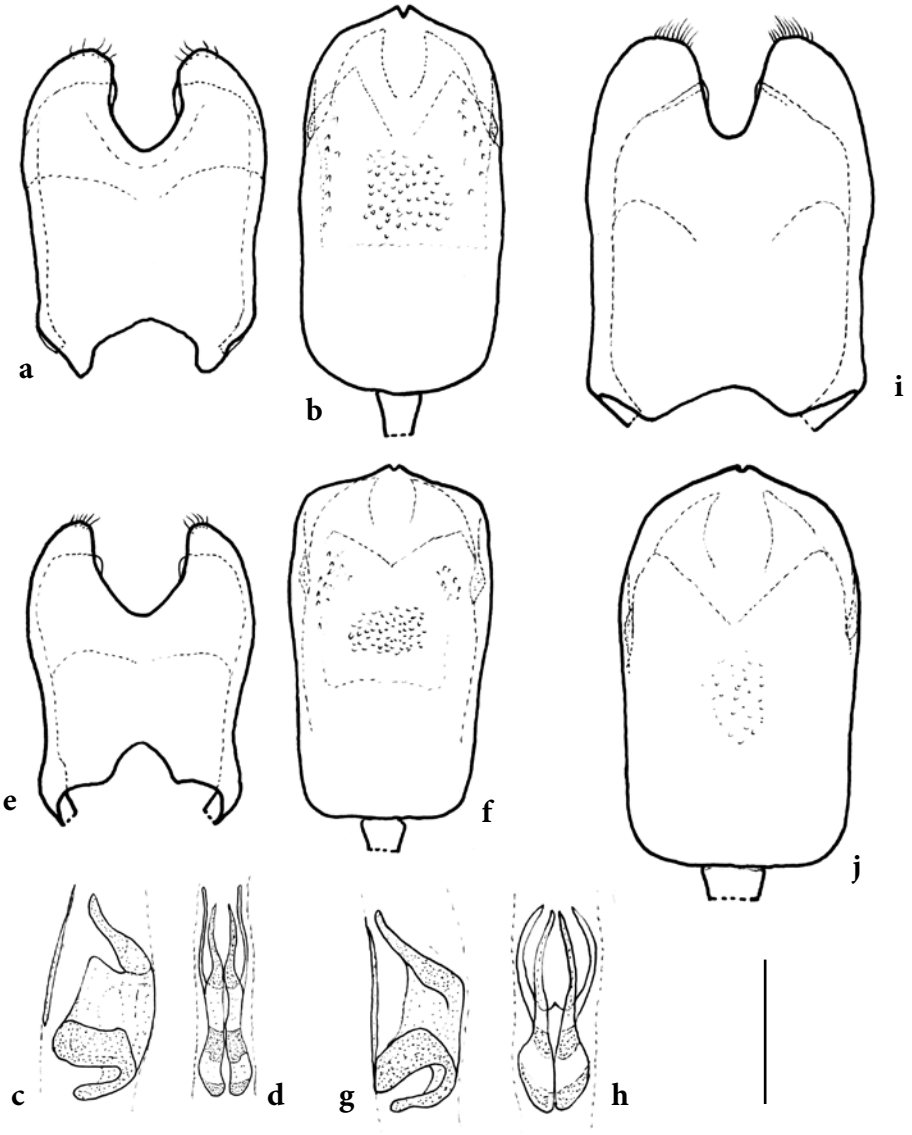

Fig. 5 − Male genitalia of *Meligethes* spp. (**a**, **e**, **i**, tegmen, dorsal view; **b**, **f**, **j**, median lobe of the aedeagus, dorsal view; **c**, **g**, main sclerites of the aedeagus, lateral view; **d**, **h**, main sclerites of the aedeagus, dorsal view): **a**, **b**, **c**, **d**, *M. torquatus* Jelínek, 1997; **e**, **f**, **g**, **h**, *M. violaceus* Reitter, 1873; **i**, **j**, *M. cyaneus* Easton, 1957. Scale bar: 0.2 mm.

CK and mtCOI genes are available for this species (Lamanna et al. unpublished data).

Taxonomic remarks. *Meligethes torquatus* is a member of the *M. atratus* species-complex; within this clade, its male and female genitalia, being very similar to those of the widespread eastern Palearctic *M. violaceus,* strongly suggest a strict phylogenetic relationship to this species, apparently absent in Taiwan, althoug exhibiting a markedly different external habitus, including distinct blue-violet dorsal metallic lustre, and elytra at most with feeble traces of transverse strigosity (Easton 1957a, Jelínek 1997; S.-T. Hisamatsu 2009). Molecular analyses on fresh material of both taxa could be useful in order to better define their actual systematic relationships.

5. *Meligethes violaceus* Reitter, 1873

Meligethes violaceus Reitter, 1873: 71

Type locality. Japan (Reitter 1873; Rebmann 1956b; Easton 1957a).

Lectotype. BMNH (Easton 1957a).

Diagnosis. *Meligethes violaceus* can be easily differentiated by the related eastern Palearctic members of the *M. atratus* complex, except *M. cyaneus*, by the blackish dorsal colouration always exhibiting, at least on pronotum, more or less marked metallic violet, blue-violet, or violet-greenish lustre, with pronotal sides reddish-brown to yellowish-brown, and absent or nearly so elytral transverse strigosity. Distinguished by *Meligethes cyaneus* by its smaller size, its much less bright dorsal colouration with pronotal sides reddish-brown to yellowish-brown, and by the different shape of male genitalia, chiefly the relatively longer, narrower, and more parallel-sided aedeagus, and the more elongate tegmen, this exhibiting a distinct projection along the inner edge of its distal incision.

Description

Size: Length 2.5-3.6 mm, width 1.5-2.2 mm.

Body color and pubescence: dorsal and ventral body surface blackish with always more or less distinct metallic violet, blue-violet, or violet-greenish lustre, at least on pronotum (Fig. 18 e); pronotal sides typically reddish-brown to yellowish-brown. Legs and antennae usually yellowish to orange-yellowish, with frequently darker, pale brown to castaneous, antennal club. Pubescence short, moderately dense, silvery-golden.

Dorsal habitus: body rather convex, wide and oval (Fig. 18 e); LPR1/LELY= 0.57-0.59; WPR1/LPR1= 1.98-2.02; WPR2/LPR1= 1.97-2.01; WPR2/WPR1= 0.98-1.00; LELY/WELY= 0.80-0.85; WPR1/WPRA= 1.85-1.88; WPR1/WELY= 0.95-0.98; WPR2/WELY= 0.94-0.97; pronotum with distinct posterior angles (Fig. 18 e), rather distinctly projecting backwards. Pronotal punctures subcircular, dense, slightly smaller than eye facets, separated by less than one diameter, interspaces usually rather smooth and shining, less frequently moderately reticulated and duller. Elytral punctures nearly as on pronotum, without transversal strigosity, punctures usually separated by less than one diameter and with variable (shining to moderately reticulated and dull) interspaces.

Ventral habitus: Metaventrite in both sexes flattened, only with barely distinct median impression in its posterior half.

Appendages: antennae comparatively short, with relatively large and short club (Fig. 18 e), exhibiting ratio ANLE/HWEA= 0.89-0.91; ratio CLLE/W10J= 1.28-1.32; ratio L03J/W03J= 2.95-3.20; ratio L03J/L02J= 1.30-1.40; ratio L03J/L04J=1.65-1.80. Male protarsal plates (Fig. 18 e) distinctly wider than in females, ratio WFTA/LFTA= 0.35-0.40 (ratio WFTA/LFTA= 0.27-0.30 in females); protibiae with minute rather sharp teeth of their outer margins, slightly larger on distal third (Fig. 18 e), exhibiting a ratio LETI/WITI= 3.0-3.2 in males, ≈ 3.2-3.3 in females.

Male genitalia: shape of tegmen and aedeagus as figured (Figs 5 e-f), characterized by rather long parallel-sided aedeagus (ratio LEAE/WIAE= 1.72-1.95), shortly and bluntly narrowed distally, with shallowy and minute median emargination. Medial distal excision of tegmen relatively wide and deep, widely U-shaped, its inner margins with distinct prominence; ratio LETE/WITE= 1.2-1.3; ratio DTIN/LETE≈ 0.33. Main sclerites of internal sac (endophallus) large, fork-shaped in dorsal view, and hook-shaped on both sides in lateral view, as figured (Figs 5 g-h); ratio LSIS/LEAE≈ 0.5; ratio WSIS/LSIS≈ 0.5.

Female genitalia (ovipositor): distal apex as figured, with minutely obliquely truncated gonocoxites (Fig. 14 d), these combined forming a minute, widely V-shaped emargination; styli short, inserted distinctly before apex (Fig. 14 d; ratio STLE/DSIA≈ 0.7; ratio STLE/CGOW≈ 0.07; ratio GONL/CGOW≈ 1.3). Basal portion of gonocoxites slightly directed distad. Ratio OVPL/GONL ~ 2.60.

Variation: This species is markedly variable, chiefly for body sizes, length/width proportions and convexity, intensity of violet-bluish dorsal metallic lustre, and more or less shining or duller dorsal surface between punctures. Specimens with blackish elytra and only feebly distinct pronotal metallic reflections are not uncommon.

Material examined. **Japan**: “Japan, G. Lewis”, without further data, ♂ lectotype and four additional specimens (Easton 1957a; BMNH); “Kyushu, Dr. Rein”, 2 specimens (BMNH); Minoge, Kanakawa-ken, 3 Jul 1968, N. Hayashi lgt, 1 ♂ (CAR); Minoo, 22 Jul 1956, S. Mizobe lgt (CAR); Honshū, Gumma Prefecture, Numata, 28 May 1952, T. Takei lgt, 1 ♀ (CAR); Hôshi, Gumma Pref., 23 Jul 1958, S. Hisamatsu lgt, 1 specimen (NMPC); Honshu, Pref. Aomori, Kuzukawa, 9 Jul 1957, coll. Shimoyama, 2 specimens (NMPC); Honshu, Osaka-fu, Kongosan,

2 km E Amami, 300 m, 2 Jun 2002, Bolm lgt, 1 specimen (NMPC). **Russia**: "Ussuri", no further data, 1 ♂, 1 ♀ (CAR); Kunashir I., Alekhino, 15 Jun 1963, Kerzhner lgt, 1 specimen (NMPC); Sakhalin I., Antva distr., 5 km W Petropavlovskiy, tributary of Lyutoga river, 20-21 Jul 1993, Pütz & Wrase lgt, 4 specimens (NMPC). **China**: SW Anhui, Tianzhushan env., 30.75N, 116.45E, 11-14 May 2004, J. Turna lgt, 1 specimen (NMPC) ; Shaanxi, Lueyang, 15-22 Jul 2005, E. Kučera lgt, 2 specimens (NMPC); ibidem, 29 May-2 Jun 2005, 1 specimen (NMPC); W. Hubei, Jianshi se, 30.6N, 109.7E , 800 m, 8 Jul 2003, J. Turna lgt, 1 specimen (NMPC); Zhejiang Province, Agji County, Long Wan Shan Nature Reserve, 1200 m, 13 May 1996, J. Cooter lgt, 1 ♂, 2 ♀♀ (CAR); S. Zhejiang, Caoyutang, 27.55N, 119.39E, 1100-1380 m, 5-6 May 2009, J. Turna lgt, 39 specimens (NMPC); Fujien**,** Kuatun, 27.40N, 117.40E, 2300 m, 8 Mar 1938, J. Klapperich lgt,1 specimen; ibidem, 24 Mar 1938, 2 specimens; ibidem, 29 Mar 1938, 2 specimens; ibidem, 30 Mar 1938,1 specimen; ibidem, 31 Mar 1938, 5 specimens; ibidem, 1 Apr 1938, 1 specimen; ibidem, 2 Apr 1938, 16 specimens; ibidem, 3 Apr 1938, 15 specimens; ibidem, 4 Apr 1938, 1 specimen; ibidem, 5 Apr 1938, 3 specimens; ibidem, 6 Apr 1938, 20 specimens; ibidem, 7 Apr 1938, 12 specimens; ibidem, 10 Apr 1938, 10 specimens; ibidem, 12 Apr 1938, 4 specimens; ibidem, 15 Apr 1938, 1 specimen; ibidem, 16 Apr 1938, 1 specimen; ibidem, 18 Apr 1938, 20 specimens; ibidem, 19 Apr 1938, 6 specimens; ibidem, 20 Apr 1938, 11 specimens; ibidem, 21 Apr 1938, 14 specimens; ibidem, 23 Apr 1938, 21 specimen; ibidem, 25 Apr 1938, 1 specimen; ibidem, 27 Apr 1938, 9 specimens; ibidem, 30 Apr 1938, 1 specimen; ibidem, 1 May 1938, 1 specimen; ibidem, 6 May 1938, 1 specimen; ibidem, 7 May 1938, 1 specimen; ibidem, 8 May 1938, 1 specimen; ibidem, 10 May 1938, 2 specimens; ibidem, 11 May 1938, 4 specimens; ibidem, 13 May 1938, 1 specimen; ibidem, 19 May 1938, 4 specimens; ibidem, 26 May 1938, 7 specimens; ibidem, 30 May 1938, 21 specimen; ibidem, 31 May 1938, 10 specimens; ibidem, 2 Jun 1938, 11 specimen; ibidem, 3 Jun 1938, 15 specimens; ibidem, 4 Jun 1938, 20 specimens; ibidem, 5 Jun 1938, 1 specimen; ibidem, 6 Jun 1938, 29 specimens; ibidem, 08 Jun 1938, 24 specimens (MAKB); Fokien, Tai-Ningli", 5 specimens (NMPC); E. Fujien, Daiyunshan, 25.39N, 118.13E, 1300-1600 m, 3 May 2008, J. Turna lgt, 6 specimens (NMPC); W. Fujien, Emei Feng, 27.01N, 117.04E, 1200-1500 m, 3-4 Jun 2008, J. Turna lgt, 1 specimen (NMPC) ; W. Fujien, ca 2 km SE Xinqiao, 27.02N, 117.06E, 640 m, 23-24 Apr 2006, J. Turna lgt, 1 specimen (NMPC); W. Fujien, Daishi Feng, 26.47N, 116.57E, 500-700 m, 7 May-2 Jun 2008, J. Turna lgt, 1 specimen (NMPC); N. Fujien, Fengshui Guan, 27.9 N, 117.85E, 1700 m, 1-4 Jun 2004, J. Turna lgt, 1 specimen (NMPC); N. Fujien, NW env. Da´an, 27.03N, 117.53E, 428 m, 20 Apr 2006, J. Turna lgt, 1 specimen (NMPC); E Fujian Province, Shiniushan, 25.38N, 118.30E, 1350 m, 28 May 2008, J. Turna lgt, 2 ♂♂, 2 ♀♀ + 16 specimens (NMPC, CAR); Guizhou, Shibing-Yuntai Shan, 60 km N of Kaili, 21-26 May 1995, E. Jendek & O. Šauša lgt, 1 specimen (NMPC); Jiangxi NE, Sanqingshan, 28.52.N, 118.04.E, 450-600 m, 18 Apr 2006, J. Turna lgt, 1 specimen (NMPC); Yunnan Province, Cangshan Mts., E slope, 25.43N, 100.06E, 2500-3000 m, 24 Jul 1992, V. Kubáň lgt, 1 ♂, 2 ♀♀ (NMPC, CAR); Sichuan, 60 km W Ya'an, 4 km W Xingou village, 1600 m, 13 Jun 1996, Ji & Wang lgt, 1 ♂ (NHMW); "Kiautshau, Breit lgt," no further data [now probably in Shandong Prov.], 1 ♂ (CAR); C. Sichuan,Hwan-Yin-shan, 1600 m, Reitter, 1 specimen (NMPC); Sichuan, Maoxian env., 2600-3000 m, 29 Jun 2003, S. Murzin lgt, 1 specimen (NMPC); N. Sichuan, Nanjiang, 21-23 May 2002, E. Kučera lgt, 1 specimen (NMPC).

Distribution. **EPA**: ANH, FE, FUJ, GUI, HUB, JA, JIX, SE, SCH, SHA, SHN, YUN, ZHE.
M. violaceus has a rather wide geographic distribution in easternmost part of the of Eastern Palearctic areas, including Japan, Sakhalin (= Karafuto, as named during the Japanese occupation), Kuril Islands (Kirejtshuk 1992; the same record previously referred to *M. cyaneus* by Kirejtshuk 1979b), Ussuri Region and most of central, eastern and southern provinces of China (Kirejtshuk 1992; Jelínek & Audisio 2007); probably occurring also in Korea.

Chorotype. Sino-Japanese.

Host-plants. Probably oligophagous, regularly associated as larvae with flowers of native and sometimes cultivated *Rosa* spp. (Rosaceae), chiefly *Rosa multiflora* Thunb. (Hayashi 1978), a widespread eastern Asiatic scrambling shrub, frequently climbing over other plants to a height of 3–5 m, exhibiting white flowers, and distributed in Japan, China, and Korea. Kirejtshuk (1992) mentions also *Rosa rugosa* Thunb. as host-plant in eastern Asia. Adults, at least before and after their reproductive period, appear to be more polyphagous, being frequently present also on flowers and inflorescences of other plant families.

Habitat. Clearings at forest margins, stream sides, open low and middle altitude scrubs; at least between the sea level and 2000-2800 m, apparently more common and widespread at low and intermediate altitudes (200-1000 m).

Phenology. III-**IV**-**V**-**VI**-**VII**-VIII.

DNA data. Not available.

Taxonomic remarks. See the discussion above on *Meligethes torquatus*. Final instar larvae of this species was thoroughly described by Hayashi (1978).

6. *Meligethes cyaneus* Easton, 1957

Meligethes cyaneus Easton, 1957a: 408

Type locality. Japan, Miyanoshita [hot springs area in the town of Hakone, Kanagawa Prefecture, Honshū] (Easton 1957a).

Holotype. BMNH (Easton 1957a).

Diagnosis. *Meligethes cyaneus* can be easily differentiated by the related eastern Palearctic members of the *M. atratus* complex, except *M. violaceus*, by the dorsal colouration always exhibiting marked metallic violet-greenish lustre, and no elytral transverse strigosity. Distinguished by *Meligethes violaceus* by its larger size, its much brighter dorsal colouration with usually concolorous (never reddish to orange-yellowish) pronotal sides, and by the different shape of male genitalia, chiefly the relatively shorter, wider, and less parallel-sided aedeagus, and the less elongate tegmen, this exhibiting an almost undistinct projection along the inner edge of its distal incision. Ovipositors of *M. violaceus* and *M. cyaneus* also differ markedly in the shape of their distal apices.

Description
Size: Length 3.5-4.5 mm, width 2.0-2.7 mm.
Body color and pubescence: dorsal and ventral body surface bright metallic violet, blue-violet, or greenish-violet (Fig. 18 f); pronotal sides typically the same colour as disk or blackish. Legs and antennae usually yellowish to orange-yellowish, including antennal club. Pubescence short, silvery-golden.
Dorsal habitus and body proportions: as in *Meligethes violaceus.* Interspaces between pronotal and elytral punctures uniformly smooth and shining.
Ventral habitus: metaventrite in male with moderately deep linear, median longitudinal impression in its posterior half, almost absent in female.
Appendages: shaped as in *Meligethes violaceus.*
Male genitalia: shape of tegmen and aedeagus as figured (Figs 5 i-j), characterized by moderately long aedeagus, widest at distal third (ratio LEAE/WIAE = 1.61-1.65), shortly and bluntly narrowed distally, with shallowy and minute median emargination. Medial distal excision of tegmen relatively wide and deep, widely U-shaped, its inner margins with barely distinct prominence; ratio LETE/WITE ≈ 1.3; ratio DTIN/LETE ≈ 0.28. Main sclerites of internal sac (endophallus) not available in the single male specimen studied by the authors.
Female genitalia (ovipositor): distal apex as figured, with bluntly pointed gonocoxites (Fig. 14 f), without emargination distad; styli short, inserted distinctly before apex (Fig. 14 f; ratio STLE/DSIA ≈ 0.5; ratio STLE/CGOW ≈ 0.05; ratio GONL/CGOW ≈ 1.4). Basal portion of gonocoxites slightly directed distad. Ratio OVPL/GONL ≈ 2.60.
Variation: This species is scarcely variable, chiefly for body sizes.

Material examined. **Japan**: Miyanoshita [hot springs area in the town of Hakone, Kanagawa Prefecture, Honshū], 19 Apr [18]80, ♂ holotype and one additional ♀ paratype ("allotype") (Easton 1957a; BMNH); Honshū, Osaka, Jun 1957, L. Mizobe lgt, 2 ♀♀ (NMPC, CAR).

Distribution. **EPA**: JA.
M. cyaneus has a rather restricted distribution in Japan, Honshū. Kirejtshuk (1979b) recorded the presence of this species also in the Russian Kunashir Island [Ainu Island in Japanese; the southernmost island of the Kuril Islands, which are controlled by Russia and claimed by Japan]. But later Kirejtshuk (1992) excluded the presence of *M. cyaneus* in the Kuril Islands, while recording the closely related *M. violaceus* for the same islands.

Chorotype. Japanese endemic.

Host-plants. Probably associated with flowers of *Rosa* spp. or of others large Rosaceae.

Habitat. Forest margins, stream sides; mainly at low altitudes (0-200 m).

Phenology. IV-**V-VI**

DNA data. Not available.

1.2. The *Meligethes vulpes*-group

Members of this species group/complex combine simple tarsal claws, truncate anterior margin of clypeus, body moderately long, more or less uniformly testaceous (yellowish to orange-brown) body colouration (only the head and sometimes also part of pronotum and of the ventral side being in some cases darker, blackish-brown) and golden to silvery-golden, well-developed pubescence (Figs 18 g-i). Dorsal punctures on discal portion of head, pronotum and elytra usually as large as or slightly smaller than eye facet, dense, usually moderately to deeply impressed; interspaces between frontal, pronotal and elytral punctures usually smooth and shining, sometimes with faint traces of reticulation, or seldom elytra more densely reticulate and duller than pronotum. Elytra usually with simple punctation, not distinctly transversely strigose, sometimes only with feeble traces of strigosity around scutellum. Posterior pronotal angles only very slightly projecting backwards (Figs 18 g-i). Elytral apices truncately rounded in both sexes (Figs 18 g-i). Ratio WPR2/WELY= 0.89-1.02 (Figs 18 g-i). Apex of pygidium blunt, obtusangulate and not projecting backwards, or acutely and distinctly projecting backwards in males, lobed projection gently depressed or slightly curved dorsad (Figs 18 g-i); apex of pygidium

obtusely rounded in females. Metaventrite in males more or less distinctly impressed, with or without tufts of erect hairs. Antennae with moderately long flagellum and middle-sized antennal club (ratio ANLE/HWEA= 0.80-1.07; ratio CLLE/W10J = 1.33-1.70; ratio CLLE/ANLE= 0.30-0.32). Protarsi usually moderately long in relation with corresponding tibiae, ratio LFTA/LETI ≈ 0.7 (Figs 18 g-i). Posterior tibiae in both sexes moderately wide, their inner margin distinctly arcuated, ratio WPTI/LPTI = 0.32-0.34 (Figs 18 g-i). Inner margins of parameres smooth, simple, without lobes and/or projections (Figs 6 a, c, e, g, i); distal setae of parameres comparatively short (Figs 6 a, c, e, g, i; ratio THLE/LETE = 0.04-0.05). Apex of aedeagus narrowly pointed or obtuse, neither truncate nor spatulate, with characteristically minute but always distinct narrow incision (Figs 6 b, d, f, h, j). Main sclerites of endophallus relatively small, widely rod-shaped and subparallele in dorsal view (typically ratio LSIS/LEAE ≈ 0.3, and ratio WSIS/LSIS ≈ 0.3). Apex of ovipositor narrowly truncate, minutely truncate/emarginated, or bluntly pointed, styli short, inserted near apex (Figs 14 g-j; ratio STLE/CGOW ≈ 0.06; ratio STLE/DSIA ≈ 0.8).

The included species range from mountain areas of Afghanistan and Middle Asia to central China, N India, and eastern Myanmar.

7. *Meligethes vulpes* Solsky, 1876

Meligethes vulpes Solsky, 1876: 251
Micrurula subopaca Reitter, 1891: 24
Meligethes transmutatus Grouvelle, 1913a: 393 [replacement name for *Meligethes subopacus* (Reitter, 1891), nec Reitter, 1874] [synonymy by Kirejtshuk 1977: 630]
Meligethes melanocephalus Rebmann, 1956b: 132 [synonymy by Kirejtshuk 1977: 630]

Type locality. "Khanatu Kokandico" (Solsky 1876; = Khanate of Kokand, i.e. Khoqand or Kokand region, now mostly in Uzbekistan).

Lectotype. ZMUM (established *in collectione* by Jelínek in 1974, but officially subsequently published by Kirejtshuk 1977).

Diagnosis. *Meligethes vulpes* can be differentiated by the closely related and apparently geographically vicariant *M. melleus* by the (on average) less transverse pronotum, the slightly shorter antennae, the more deeply impressed male metaventrite always exhibiting a mesial couple of tufts of setae, the dorsal punctures slightly finer and more dense, and the distinctly longer aedeagus, in apical third markedly tapering towards apex. Easily distinguished by the parapatric *M. lutra* Solsky, 1876, which is characterized by amply distinct male genitalia, absence of tufts of setae on metaventrite in both sexes, distal apex of pygidium acutely and distinctly projecting backwards in males, wider protarsal plates in males, more parallel-sided body, and elytral punctures finer and more dense, with much duller interspaces.

Description

Size: 2.7-3.2 mm length, 1.4-1.8 width.

Body color and pubescence: dorsal body surface usually yellowish to orange-brown, but often head, seldom also pronotum and scutellum piceous to black-brown. Pronotal and elytral sides typically same color as disc. Dark pigmentation of ventral surface considerably variable, at least head, prosternal process, meso- and metaventrite, sometimes entire ventral surface except for hypomera and hypopygium dark, black-brown. Legs and antennae usually yellowish, frequently with darker antennal club. Pubescence with long and prostrate setae, golden to silvery-whitish and dense, rarely partially obscuring the dorsal surface.

Dorsal habitus: body moderately convex, wide and oval (Fig. 18 g); LPR1/LELY= 0.50-0.55; WPR1/LPR1= 1.55-1.69; WPR2/LPR1= 1.58-1.75; WPR2/WPR1= 1.00-1.02; LELY/WELY= 0.96-1.02; WPR1/WPRA= 1.40-1.49; WPR1/WELY= 0.92-0.98; WPR2/WELY= 0.93-1.01; pronotum with distinct but blunt posterior angles, almost at right angle (Fig. 18 g), only very slightly projecting backwards. Interspaces between pronotal and elytral punctures usually smooth and shining, sometimes with traces of reticulation, seldom on elytra rather densely reticulate and duller than on pronotum. Apex of pygidium in males obtusangulate, but not projecting from the outline of pygidium (Fig. 18 g), obtusely rounded in females.

Ventral habitus: male metaventrite with shallow mediolongitudinal impression in anterior half, beside it with two bulges bearing well-distinct tuft of short, erect yellowish hairs, posterior third between metacoxae more deeply and widely impressed; in females metaventrite flattened or gently depressed behind its midlength, the mediolongitudinal line hardly impressed.

Appendages: antennae (Fig. 18 g) exhibiting ratio ANLE/HWEA= 0.80-0.87; ratio CLLE/W10J= 1.33-1.40; ratio L03J/W03J= 2.65-2.75; ratio L03J/L02J= 1.05-1.15; ratio L03J/L04J=1.60-1.68. Male protarsal plates (Fig. 18 g) markedly wider than in females, ratio WFTA/LFTA= 0.30-0.33 (ratio WFTA/LFTA= 0.22-0.25 in females); protibiae with minute rather sharp teeth on most of their outer margins (Fig. 18 g), ratio LETI/WITI= 3.1-3.2 in males.

Male genitalia: shape of both tegmen and aedeagus moderately variable, but usually as figured (Figs 6 a-b), characterized by ratio LEAE/WIAE= 2.40-2.60, and peculiarly tapering aedeagal apex. Medial distal excision of tegmen deep, relatively narrow (ratio DTIN/LETE≈ 0.4), its inner margins evenly and gently curved; ratio LETE/WITE= 1.60-170. Main sclerites of internal sac (endophallus) small, rod-shaped in both dorsal and lateral view; ratio LSIS/LEAE≈ 0.27; ratio WSIS/LSIS≈ 0.3.

Female genitalia (ovipositor): distal apex as figured (Fig.

14 i), narrowly subtruncate and barely emarginated (ratio STLE/DSIA≈ 0.75; ratio STLE/CGOW≈ 0.06; ratio GONL/CGOW≈ 1.10). Basal portion of gonocoxites moderately directed proximad. Ratio OVPL/GONL ~ 2.50.
Variation: Specimens from Hissar and Darwaz Mts. show proportionally slightly longer antennal flagellum. Base of pronotum usually as wide as, in some populations somewhat wider than that of elytra (WPR1/WELY= 0.92-1.02). Explanate sides of pronotum usually narrower than antennal flagellum, indistinctly dilated near posterior angles; seldom is the explanate border sharply delimited and as wide as antennal flagellum (populations from Darwaz Mts). Elytra usually oval, as long as or slightly longer than their combined width, in some populations (e.g. from Tshitshantan and Karategin Mts.) more prolonged (LELY/WELY= 0.96-1.02). Punctures of elytra dense, around scutellum in some specimens feebly transversely strigose and sometimes even feebly rasp-like, in transverse direction almost contiguous.

Material examined. **Uzbekistan**: Hissar Mts. [= Ghissar Mts.], upper stream of the river Tupalanga, 1898, Wil´berg lgt, 1 ♀ (ZIN); ibidem, F. Hauser lgt, 1 ♀ (CAR); Toste, river Padsha-ata nr. Namangan, 12 Jun 1908, Grigoriew lgt, 1 ♀; ibidem, 15 Jun 1908, 1 ♂ (ZIN); lake Kuk-kul near Chamzaabad, S of Ferghana, 7 Aug 1977, S. Bílý and A.Olexa lgt, 3 ♂♂, 1 ♀ (NMPC); Chadraabad, 8 May 1977, A.Olexa lgt, 1 ♂, 2 ♀♀ (NMPC, CAR); Bukhara [in Uzbek: Buxoro; in Russian: Бухара], without further data, F. Hauser lgt, 3 ♂♂, 1 ♀ (CAR). **Tadjikistan**: lake Margusar, 1892, Glasunow lgt, 1 ♂ (ZIN); Hissar Mts., Takob, 2300 m, 21 May 1974, A.Olexa lgt, 1 ♂ (NMPC); Yavroz near Dushanbe, 01 May 1977, S.Bílý lgt, 1 ♂ (NMPC); Romit, 2000 m, 25 Apr-3 May 1981, J. Hladil lgt, 1 specimen (NMPC); Sal´bar, valley of riv. Ak-su, 31 May 1897, Kaznakov lgt, 1 ♂, 1 ♀ (ZIN); Karategin Mts., Baldshuan, 924 m, 1898, F. Hauser lgt, 1 ♂ (NMPC); Peter the I Mts., 10 km S of Tadjikabad, 2500 m, 12 Jun 1969, G. Medvedev lgt, 1 ♀ (ZIN); Peter the I Mts., Lyayrun, 18 May 1963, Lopatin lgt, 2 ♂♂, 5 ♀♀ (ZIN); Darwaz Mts., ravine Wisharwi, 15 Jul 1977, Emkatukov lgt, 1 ♂ (ZIN); (?) Tshitshantan, 1898, F.Hauser lgt, 3 specimens (NMPC); crest Surkh-ku, Masar 'Mir', 2300-2500 m, 17 Jun 1976, Pavlov lgt, 1 ♂, 2 ♀♀ (ZIN). **Kyrgyzstan**: Sussamyr, Fischer lgt, 3 specimens (ZIN); Tian-shan Mts., Atbashi, 20 Jun 1959, Zaslavskij lgt, 1 ♂ (NMPC); Kashka-su, 30 km S of Frunze (= Bishbek), 1700 m, in flowers of *Rosa platiacantha*, 6 Jun 1979, A.G. Kirejtshuk lgt, 11 specimens (ZIN); ibidem, 13 Jun 1979, 1 ♂, 4 ♀♀ (ZIN); Ala-Archa, S of Frunze, 1400 m, 27 May 1974, Pfeffer lgt, 1 ♀ (NMPC); ibidem, 2300-2800 m, 8 Jul 1976, J. Jelínek lgt, 53 specimens (NMPC, CAR); ibidem, 2300 m, 7-9 Jul 1976, 77 specimens (NMPC, CAR); Chatkal mts., Sary-Tshelek, 15 Jul 1988, V. Kubáň lgt, 10 specimens (NMPC). **Turkmenistan**: Firjuza (Aschabad), 22 Apr 1981, O. Odvárka lgt, 1 ♂, 1 ♀ (NMPC, CAR). **China**: Xinjiang prov. ("Ost-Turkestan"), Bagratsh-kul, F. Hauser lgt, 1 ♂ (NMPC).

Distribution. **EPA**: UZ, TD, KI, TM, XIN.
M. vulpes has a relatively wide geographic range from Uzbekistan to extreme NW China, probably throughout most of the ex-Soviet Middle Asia .

Chorotype. Middle-Asiatic.

Host-plants. Oligophagous. *M. vulpes* appears to be associated at larval stage with flowers of *Rosa* spp. (Rosaceae), chiefly *Rosa platyacantha* Schrenk, 1842 [known from China (Xinjiang), Kazakhstan, Middle Asia and Mongolia] and allied yellow-flowering species. Adults, at least before and later their reproductive period, appear to be amply polyphagous.

Habitat. Open forest margins, scrub, stream sides, arid slopes, waste fields; 900-2500 m.

Phenology. IV-V-**VI-VII**-VIII.

DNA data. Not available.

Taxonomic remarks. *Meligethes transmutatus* Grouvelle, 1913, described by Reitter (1891) under *Micrurula subopaca* from Osh and Alai (later also erroneously reported from NE and E Afghanistan by Easton (1957b), based on specimens to be referred to the following species, *M. melleus* Grouvelle, 1908), as well as *M. melanocephalus* Rebmann, 1956, described from Tadjikistan, Baldschuan ('Buchara, Mts. Karateghin, Baldschuan': Rebmann 1956b), belong to this species. The latter synonymy could be confirmed by revision of the ♂ in NMPC from the same collection and locality as the Rebmann´s types.
Meligethes vulpes Solsky, 1876, as intended so far (Kirejtshuk 1977, 1992; Chen et al. 2013), resulted a variable species with a putative extensive areal comprising Hissaro-Darvas, Tian-shan, Hindukush and western Himalaya. Many characters of this taxon, such as the proportions of pronotum, relative length of elytra, extent of dark pigmentation (especially on ventral surface), microscopic reticulation of elytra, presence/absence of tufts of hairs on metaventrite in males, and the proportions of aedeagus, are apparently subject to a considerable degree of variation, but, judging from the examination of large syntopic series, this variation is, in fact, rather limited within the same population and the same group of geographically related populations. The variation of this 'species' apparently results from partial isolation of local groups of populations on an extensive territory with complex orography. Whereas the variation of many characters is apparently random distributed, relative length of aedeagus seems to display a rather distinct clinal variation in the north-south (resp. southeast) direction. This, along with marked differ-

ences in the sexual dimorphism on metaventrites, allows to clearly distinguish two allopatric taxa (species or semispecies): *M. vulpes* in the ex-soviet Middle Asia and NW China (Xinjiang province), and *M. melleus* in Hindukush (E and NE Afghanistan), Pamir (N Pakistan and S Tadjikistan, Gorno-Badakhshan), and southern Himalayan areas from Pakistan Kashmir to N Myanmar. See also discussion (Taxonomic remarks) below, about the taxonomic position of *Meligethes lutra* Solsky, 1876. A recent publication by Chen et al. (2013) introduced the presumed synonymies of *Meligethes lutra* Solsky, 1876 and *M. melleus* Grouvelle, 1908 with *M. vulpes*. As discussed below, synonymy of *M. lutra* is manifestly unsupported, while the actual evolutionary and taxonomic rank (semispecies or species) of *M. melleus* and *M. vulpes* remains to be ascertained with molecular analyses.

8. *Meligethes melleus* Grouvelle, 1908, sp. rediv.

Meligethes melleus Grouvelle, 1908: 371
Meligethes transmutatus; Easton 1957b: 385, 388, nec *Meligethes transmutatus* Grouvelle, 1913: 393
Meligethes stultus Grouvelle (unpublished *nomen in collectione*, coll. A. Grouvelle, MNHN)

Type locality. Myanmar: Pegu [= probably the Pegu Mts., NE of the Burman town of Bago; Pegu was one of the ancient names for the Kingdom of Talaing, which comprised part of present-day southeastern Burma and west-central Thailand, the Remnant of Kingdom of Awa, also known as 'Upper Burma', in 1852 annexed to British India] (Grouvelle 1908).

Lectotype. MNHN, one ♀ (here designed).

Diagnosis. *Meligethes melleus* can be differentiated by the closely related and apparently geographically vicariant *M. vulpes* by the (on average) more transverse pronotum, the slightly longer antennae, the narrower front tibiae and male front tarsi, the almost simple male metaventrite always lacking tufts of setae, the dorsal punctures slightly coarser and sparser, the more variable (long and dense to finer and more inconspicuous) dorsal pubescence, and the relatively shorter aedeagus, in apical third more arcuately narrowed towards apex. Easily distinguished by the geographically vicariant *M. lutra* Solsky, 1876, which is characterized by amply distinct male and female genitalia, duller elytra, and (in males) acutely projected apex of pygidium and wider protarsal plates.

Description
Size: 2.4-3.3 mm length, 1.2-1.8 mm width.
Body color and pubescence: External habitus and colouration generally corresponding to that of the preceding species (Fig. 18 g); dorsal body surface usually testaceous to pale brown, but head frequently darker, pronotal and elytral sides typically same color as disc (in specimens from Himalaya head is often black and antennae beginning from antennomere iii or iv infuscate); sometimes entire ventral surface except for hypomera and hypopygium dark, blackbrown. Legs and antennae usually yellowish, frequently with darker antennal club. Pubescence with variably long and prostrate setae, golden to silvery-whitish and more or less dense, rarely partially obscuring the dorsal surface.
Dorsal habitus: body moderately convex, wide and oval; LPR1/LELY = 0.50-0.55; WPR1/LPR1 = 1.65-1.80; WPR2/LPR1 = 1.67-1.82; WPR2/WPR1 = 1.01-1.03; LELY/WELY = 0.98-1.02; WPR1/WPRA = 1.45-1.50; WPR1/WELY = 0.93-0.98; WPR2/WELY = 0.95-1.02; pronotum with distinct but blunt posterior angles, almost at right angle, only very slightly projecting backwards. Elytral punctures slightly larger than those of pronotum, nearly equal in size to eye facets, more or less round, with feeble traces of transversal strigosity only around scutellum, separated by about one diameter in longitudinal direction and by less than one diameter in transverse direction. Interspaces between pronotal and elytral punctures usually smooth and shining, sometimes with traces of reticulation. Apex of pygidium obtusely rounded in both sexes.
Ventral habitus: Metaventrite usually subequal in both sexes, flattened behind its midlength, mediolongitudinal line hardly impressed, tufts of erect hairs always absent; in some males metaventrite distinctly more deeply impressed mediolongitudinally than in females. In females metaventrite flattened or gently depressed behind its midlength, the mediolongitudinal line hardly impressed.
Appendages: antennae exhibiting ratio ANLE/HWEA = 0.90-0.95; ratio CLLE/W10J = 1.35-1.40; ratio L03J/W03J = 2.80-3.00; ratio L03J/L02J = 1.05-1.15; ratio L03J/L04J = 1.60-1.68. Male protarsal plates markedly wider than in females, ratio WFTA/LFTA = 0.27-0.31 (ratio WFTA/LFTA = 0.22-0.25 in females); protibiae with minute rather sharp teeth on most of their outer margins, exhibiting a ratio LETI/WITI ≈ 3.5-3.7 in males, ≈ 3.7-3.9 in females.
Male genitalia: shape of both tegmen and aedeagus moderately variable (Figs 6 e-h), characterized by ratio LEAE/WIAE = 2.15-2.30, and usually arcuately narrowed towards aedeagal apex. Medial distal excision of tegmen moderately deep, relatively narrow (ratio DTIN/LETE ≈ 0.3), its inner margins more or less evenly and gently curved; ratio LETE/WITE = 1.65-1.68. Main sclerites of internal sac (endophallus) nearly as in *M. vulpes*.
Female genitalia (ovipositor): distal apex as figured (Fig. 14 j), narrowly subtruncate and moderately emarginated (ratio STLE/DSIA ≈ 0.80; ratio STLE/CGOW ≈ 0.07; ratio GONL/CGOW ≈ 1.30). Basal portion of gonocoxites moderately directed proximad. Ratio OVPL/GONL ≈ 2.65.
Variation: Specimens from the type locality (Myanmar, Pegu Mts.) show proportionally slightly shorter antennal flagellum, and shorter dorsal pubescence. Dorsal punc-

tures, especially in specimens from W Himalaya, sometimes coarser and sparser.

Material examined. **Myanmar**: Pegu [= probably on Pegu Mts., now a mountain chain NE of Bago, nearly 19.00N, 97.10E, see above], 2 ♀♀ (syntypes; one of them here selected as lectotype, see below) mounted on common label: 'Pegu /TYPE/, *Meligethes melleus* sp. n. Grouv.' (handwritten by Grouvelle) (MNHN). Two additional specimens from the same locality, probably belonging to the same original series, but formally not indicated as (syn) types, 1 ♂, 1 ♀ (MNHN, CAR). **Nepal**: P[province]: Karnali, D[district]: Jumla, Gothichaur valley, around camp, 29.11.50 N, 82.18.30 E, 2950 m, 29 May 2007, M. Hartmann lgt, 1 ♂ (NKME). **India**: Kashmir, Sonamarg, 17 Jul 1976, 2600-2750 m, W. Wittmer lgt, 1 ♂ (NHMB); Kashmir, Kardu, Darse, 2500 m, 18 Jun 1912, M. Mamaeva lgt, 3 ♂♂, 3 ♀♀ (ZIN); Pir Panjal Mts., 2600 m, 21-25 May 1976, Martens and Schawaller lgt, 4 specimens (SMF); Ladak, Kargil, 2950 m, 30 May-07 Jun 1976, Martens and Schawaller lgt, 2 ♂♂, 8 ♀♀ (SMF, NMPC); Himachal Pradesh, Chopal, 2400-2750 m, 7 May 1977, Wittmer and Brancucci lgt, 1 ♂ (NHMB); Kashmir, Poo, without further data, ♀ 'syntype' of the unpublished *Meligethes stultus* Grouvelle (MHNP). **Pakistan**: Naran, Khagan, 2370-2750 m, 19-25 Jun 1977, Wittmer and Brancucci lgt, 1 ♂, 11 ♀♀ (NHMB, NMPC); Chitral, Gharam Chasma, 1800-2800 m, 1-2 Jul 1982, Erber & Heinz lgt, 3 ♂♂, 2 ♀♀ (CAR); Dir, Lawarai Pass, 2700-3300 m, 28 Jun 1982, Erber & Heinz lgt, 3 ♂♂, 2 ♀♀ (CAR). **Afghanistan**: Kabul,

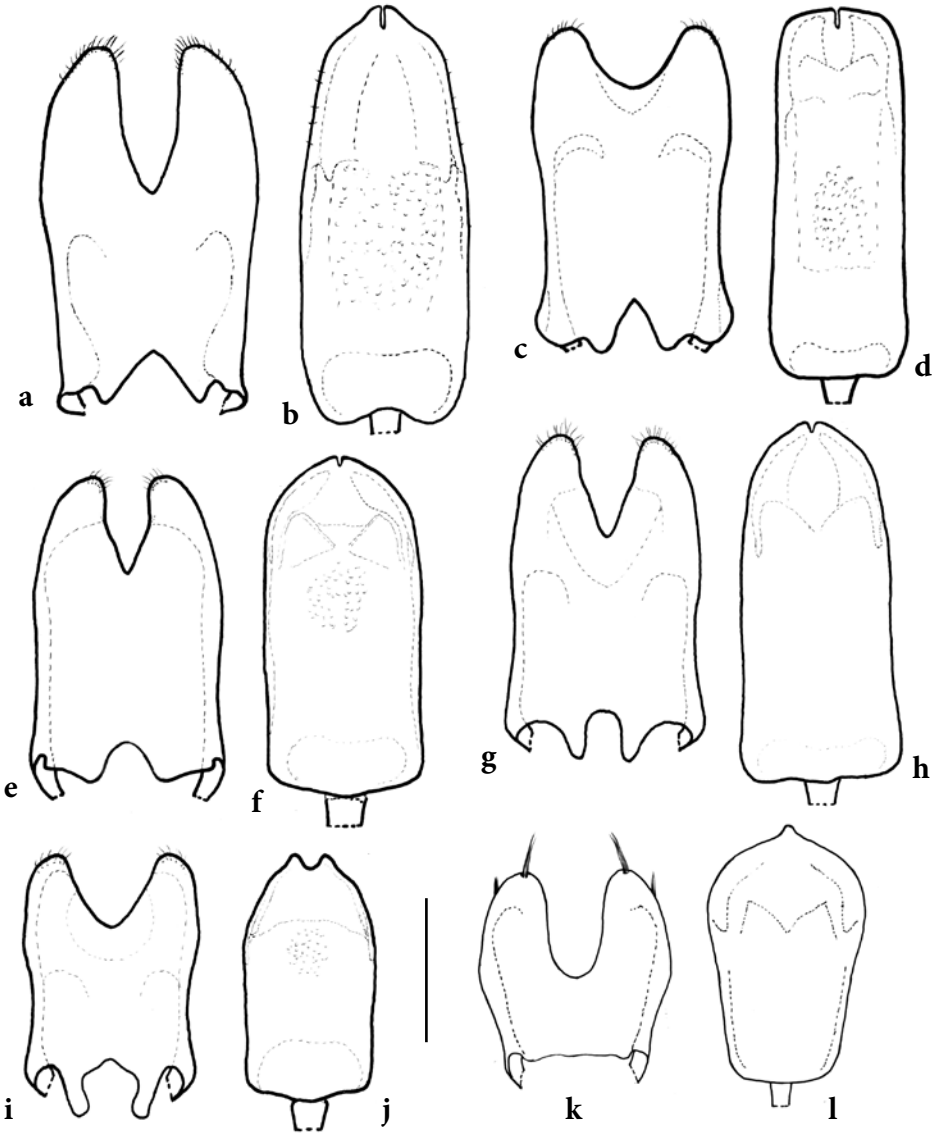

Fig. 6 − Male genitalia of *Meligethes* spp. (**a**, **c**, **e**, **g**, **i**, **k**, tegmen, dorsal view; **b**, **d**, **f**, **h**, **j**, **l**, median lobe of the aedeagus, dorsal view): **a**, **b**, *M. vulpes* Solsky, 1876; **c**, **d**, *M. lutra* Solsky, 1876; **e**, **f**, **g**, **h**, *M. melleus* Grouvelle, 1908 (**e**, **f**, specimen from N Afghanistan; **g**, **h**, specimen from E Myanmar); **i**, **j**, *M. martes* sp. n.; **k**, **l**, *M. aurantirugosus* sp. n. Scale bar: 0.2 mm.

1800 m, 20 Apr 1970, Kabakov lgt, 4 ♂♂, 7 ♀♀ (ZIN); Paghman Mts., 2100 m, 14 Jun 1953, J. Klapperich lgt, 1 ♂, 1 ♀ (BMNH). **Tadjikistan**: Rivak-Chorog, Shugnan Pamiri, 29 May 1901, Fedchenko lgt, 1 ♂, 3 ♀♀ (ZIN); Khozratishola Ridge, right side of Khingau River, 25 May 1972, Kadyrov lgt, 2 ♂♂ (CAR).

Distribution. **EPA**: TD, AF, PA, KA, HP NP. **OR**: MY. *M. melleus* is known from the type locality in eastern Myanmar (= Burma), but, due to the documented presence of apparently identical specimens and populations ranging from N Afghanistan (Hindukush) and S Tadjikistan (Pamir Mts.) to Himalayan NW India and Pakistan, it should be likely more widespread also in the scarcely explored montane areas from the N Myanmar to Bhutan, chiefly in Indian Arunachal Pradesh and Assam States and surrounding eastern and southern Himalayan areas. It is worth to note that mountains of northern and eastern Myanmar, despite geographically enclosed in the Oriental Region, are known to host relictual elements of Eastern Palaearctic origin; presence of *M. melleus* in eastern Myanmar is then to be interpreted within this biogeographical scenario involving Oriental/Palaearctic transitional areas.

Chorotype. Middle Asiatic-Southern-Himalayan.

Host-plants. Probably oligophagous as the very closely related *M. vulpes*; *M. melleus* appears to be associated at larval stage with flowers of native Himalayan *Rosa* spp. (Rosaceae). Adults, at least before and later their reproductive period, appear to be amply polyphagous.

Habitat. Open forest margins, scrub, stream sides, arid slopes, waste fields; at least between 1800-3500 m (see also Easton 1957b, under *M. transmutatus*).

Phenology. V-**VI-VII**.

DNA data. Not available.

Taxonomic remarks. As above reported, in the A. Grouvelle's collection (MNHN) is preserved a couple of ♀♀ syntypes of *M. melleus* from Myanmar, Pegu Mts. ('Pegu/ TYPE/, *Meligethes melleus* sp. n. Grouv.'); one of them is here selected and formally designed as lectotype. Two additional specimens from the same locality, very probably belonging to the same original series (MNHN, CAR) and also including a ♂ (Figs 6 e-f), formally not indicated as (syn)types, have been used to confirm the specific identity of the type material of this poorly known taxon with western Himalayan (Figs 6 g-h) and Afghan populations previously erroneously attributed to *M. vulpes.* These populations are here believed to represent a likely distinct and geographically vicariant species, whose available name is now *M. melleus*. *Meligethes transmutatus* Grouvelle, 1913 (= *M. vulpes* Solsky, 1876) was, in fact, erroneously reported from NE and E Afghanistan by Easton (1957b), based on specimens to be now referred to *M. melleus*, as evident from comparison of Afghan material from the Easton's collection (BMNH), and as already suggested by figures of male genitalia published by Easton (1957b). In the A. Grouvelle's collection (MNHN) is also preserved a specimen from 'India, Kashmir' labelled '*Meligethes stultus* Grouv., TYPE', certainly belonging again to *M. melleus*; but this taxon was never described by Grouvelle, and it is then to be considered no more than a "*nomen in collectione*". Chen et al. (2013) recently considered *M. melleus* a synonym of *M. vulpes*, but this synonymy, based on morphology and geographic distribution, appears unsupported. See also the discussion above (Taxonomic remarks) on the preceding species.

9. *Meligethes lutra* Solsky 1876, sp. rediv.

Meligethes lutra Solsky, 1876: 252

Type locality. 'Khanatu Kokandico' (Solsky 1876; = Khanate of Kokand, i.e. Khoqand or Kokand region, now mostly in Uzbekistan).

Lectotype. ZMUM (established by J.Jelínek in 1974, but officially subsequently published by Kirejtshuk 1977).

Diagnosis. *Meligethes lutra* can be differentiated by the closely related and apparently geographically vicariant *M. melleus* by the (on average) longer and less transverse pronotum, the more parallel-sided body, the slightly shorter antennae, the wider front tibiae and male front tarsi, the elytral punctures finer and more dense, with much duller interspaces, the coarser puncturation of hypopygium, the less variable (always long and dense) dorsal golden to silvery-golden pubescence, the peculiarly acutely projected distal apex of pygidium in males, by the characteristic male genitalia, with shallower and much wider, U-shaped distal tegminal incision, and much longer aedeagus, exhibiting an obtusely subtruncate apex, and by the markedly different, bluntly pointed and never subtruncated apex of the ovipositor in females. Easily distinguished by the geographically parapatric *M. vulpes* Solsky, 1876, which is characterized by amply distinct male and female genitalia, apex of pygidium never acutely and distinctly projecting backwards in males, presence of a couple of tufts of setae on metaventrite in males, and elytral punctures coarser and less dense, with more smooth and shining interspaces.

Description

Size: Length 2.8-3.2 mm, width 1.4-1.6 mm.

Body color and pubescence: External habitus and colouration generally corresponding to that of the two preceding species (Fig. 18 h); dorsal body surface usually testaceous to pale brown, but head and scutellum frequently darker,

and sometimes pronotal disk infuscate; elytral sides typically same color as disc; frequently entire ventral surface except for prosternal hypomera, and ventrites, dark, blackbrown. Legs and antennae usually yellowish, frequently with darker antennal club (antennae beginning from antennomere III or IV frequently infuscate). Pubescence with long and recumbent setae, golden to silvery-whitish and dense, often partially obscuring the dorsal surface.

Dorsal habitus: body moderately convex, elongate and parallel-sided (Fig. 18 h); LPR1/LELY= 0.53-0.55; WPR1/LPR1= 1.50-1.55; WPR2/LPR1= 1.57-1.65; WPR2/WPR1= 1.03-1.05; LELY/WELY= 1.00-1.05; WPR1/WPRA= 1.38-1.48; WPR1/WELY= 0.85-0.90; WPR2/WELY= 0.90-0.94; pronotum with distinct but blunt posterior angles, almost at right angle (Fig. 18 h), only very slightly projecting backwards. Elytral punctures slightly finer and more dense than those of pronotum, slightly smaller in size to eye facets, oval, with feeble traces of transversal strigosity only around scutellum, separated by about one diameter in longitudinal direction and by less than one diameter in transverse direction. Interspaces between pronotal punctures usually smooth and shining; interspaces between elytral punctures usually markedly reticulated and dull, frequently with traces of fine granulations. Male pygidium with rather dense flatly granular punctures, its apex always projecting into a sharply separated, acute protuberance curved dorsad (Fig. 18 h), absent in females.

Ventral habitus: Male metaventrite usually exhibiting a marked mediolongitudinal impression, widened behind its midlength, besides it moderately convex, densely punctate, shining, at sides duller, tufts of erect hairs always absent. In females metaventrite flattened or gently depressed behind its midlength, the mediolongitudinal line hardly impressed.

Appendages: antennae (Fig. 18 h) exhibiting ratio ANLE/HWEA = 0.77-0.80; ratio CLLE/W10J = 1.34-1.39; ratio L03J/W03J= 2.90-3.05; ratio L03J/L02J = 1.18-1.25; ratio L03J/L04J =1.70-1.75. Male protarsal plates (Fig. 18 h) markedly wider than in females, ratio WFTA/LFTA = 0.34-0.38 (ratio WFTA/LFTA = 0.22-0.25 in females); protibiae with minute rather sharp teeth on most of their outer margins (Fig. 18 h), exhibiting a ratio LETI/WITI = 3.3-3.4 in males, ≈ 3.5-3.6 in females.

Male genitalia: shape of both tegmen and aedeagus as figured (Figs 6 c-d), characterized by markedly parallel-sided aedeagus, ratio LEAE/WIAE = 2.52-2.68, and obtusely truncate aedeagal apex. Medial distal excision of tegmen moderately deep, semicircular to widely U-shaped (ratio DTIN/LETE ≈ 0.2), its inner margins evenly and gently curved; ratio LETE/WITE = 1.65-1.70. Main sclerites of internal sac (endophallus) nearly as in *M. vulpes*.

Female genitalia (ovipositor): distal apex as figured (Fig. 14 h), bluntly pointed and never emarginated (ratio STLE/DSIA ≈ 0.60; ratio STLE/CGOW ≈ 0.06; ratio GONL/CGOW ≈ 1.20). Basal portions of gonocoxites moderately directed proximad, their laterally directed apices bluntly and relatively widely truncated. Ratio OVPL/GONL ≈ 2.65.

Variation: This species is scarcely variable, except for body sizes and body colouration, as described above.

Material examined. **Uzbekistan**: Kokand (= Khokan), 7 Jul 1871, 1 ♂ (Lectotype, ZIN); Lake Sary Chelek, 2000 m, 21 Jun 1979, in flowers of *Rosa kokanica* (Regel) Juz. in Kom. ('*Rosa cocandica*' in original label), A.G. Kirejtshuk lgt, 2 ♂♂, 3 ♀♀ (ZIN); Lake Kuk-kul near Chamzaabad [= Chamza-Abad], S Ferghana, 26 Apr 1972, Pfeffer lgt, 1 specimen; ibidem, 8 May 1977, S. Bílý lgt, 5 ♂♂, 7 ♀♀ (NMPC); Chamzaabad, 8 May 1977, A. Olexa lgt, 2 ♂♂, 2 ♀♀ (NMPC, CAR); ibidem, S. Bily lgt, 1 ♂, 2 ♀♀ (NMPC, CAR).

Distribution. **EPA**: UZ.

M. lutra has a restricted geographic range only including the Ferghana Valley and surrounding mountains in E Uzbekistan, but it could be present also in neighbouring areas along the western slopes of the Ferghana Mts. in W Kyrgyzstan. This strictly endemic taxon may have developed from ancestral populations isolated in Ferghana Valley by surrounding mountains, covered with ice and snow during the Glacial period (Kryzhanovskij 1965). Postglacial recolonization of the territory by the closely related *M. vulpes* probably resulted in the current sympatric occurrence of both species in Ferghana Valley.

Chorotype. Middle Asiatic.

Host-plants. Likely oligophagous as the very closely related *M. vulpes*; *M. lutra* was so far found associated with certainty with flowers of the native Middle Asiatic subendemic *Rosa kokanica* (Regel) Regel ex Juz. (Rosaceae). Adults, at least before and later their reproductive period, appear to be amply polyphagous.

Habitat. Arid slopes at forest margins, scrub, stream sides; at least between 1800-2200 m.

Phenology. IV-**V-VI**-VII.

DNA data. Not available.

Taxonomic remarks. *Meligethes lutra* was considered a synonym of the widespread Middle Asiatic *M. vulpes* by Kirejtshuk (1977) and by subsequent authors (Kirejtshuk 1992; Jelínek & Audisio 2007), and this synonymy was again recently reiterated as a "new" synonymy by Chen et al. (2013). As above reported, the ♂ lectotype of this taxon (ZIN) is identical with a series of specimens more recently collected in E Uzbekistan, and sharing male and female genitalia quite distinct from the true *M. vulpes*, chiefly tegmen more widely and less deeply emarginated distally, aedeagus more parallel-sided, subtruncate and

not tapering towards apex in distal third (Figs 6 c-d), and distal apex of the ovipositor bluntly pointed and not subtruncated (Fig. 14 h). *M. lutra* differs from *M. vulpes* also in following additional characters: body more parallel-sided, discal portion of pronotum and scutellum frequently darker, elytra always duller than pronotum, densely reticulate, male anterior tarsi wider, apex of male pygidium protuberant (acutely lobed), male metaventrite in the middle deeply impressed, but without tufts of erect hairs. Some of the above external traits may occur separately also in some populations of *M. vulpes*, but they represent a constant complex of characters invariably occurring in all specimens of *M. lutra*. As a consequence of the presented combined evidence, we believe that *Meligethes lutra* can no longer be considered a synonym of *M. vulpes* Solsky, 1876, and we then propose to rise it to its original specific rank: *Meligethes lutra* Solsky, 1876, **sp. rediv.**

10. *Meligethes martes* sp. n.

Type locality. China, Shaanxi Province, Hua Mts. (= Hua Shan).

Diagnosis. *Meligethes martes* sp. n. can be easily differentiated by the related and geographically vicariant species of the *M. vulpes* complex by a combination of small body, peculiarly narrow male front tarsi, absence of a couple of tufts of setae on metaventrite in males, distinctly projected distal apex of pygidium in males, and by the quite distinct male and female genitalia, with deeper and much wider, U-shaped distal aedeagal incision, and shorter tegmen, and peculiarly shaped pre-distal portion of the ovipositor.

Description (♂ holotype)
Size: Length 2.7 mm, width 1.3 mm.
Body color and pubescence: External habitus and colouration generally corresponding to that of the three preceding species (Fig. 18 i); dorsal body surface testaceous; elytral sides same color as disc; entire ventral surface testaceous-brown. Legs and antennae yellowish-brown. Pubescence with moderately long and recumbent setae, golden to silvery-whitish and dense, partially obscuring the dorsal surface.
Dorsal habitus: body moderately convex, long and oval (Fig. 18 i); LPR1/LELY= 0.52; WPR1/LPR1= 1.67; WPR2/LPR1= 1.69; WPR2/WPR1= 1.02; LELY/WELY= 1.00; WPR1/WPRA= 1.50; WPR1/WELY= 0.87; WPR2/WELY= 0.89; pronotum with distinct posterior angles, almost at right angle (Fig. 18 i), not distinctly projecting backwards. Elytral punctures slightly finer and as dense as those of head and pronotum, slightly smaller in size to eye facets, oval, without traces of transversal strigosity, separated by about one diameter in longitudinal direction and by less than one diameter in transverse direction. Interspaces between pronotal and elytral punctures smooth and shining. Male pygidium with rather dense flatly granular punctures, its apex projecting into distinct acute protuberance (Fig. 18 i).
Ventral habitus: Male metaventrite exhibiting a marked mediolongitudinal impression, widened behind its midlength, besides it moderately convex, densely punctate, shining, at sides duller, tufts of erect hairs absent.
Appendages: antennae (Fig. 18 i) exhibiting ratio ANLE/HWEA = 0.90; ratio CLLE/W10J = 1.43; ratio L03J/W03J = 2.30; ratio L03J/L02J = 0.95; ratio L03J/L04J= 2.00. Male protarsal plates (Fig. 18 i) relatively narrow, ratio WFTA/LFTA = 0.30; protibiae with minute rather sharp teeth on most of their outer margins (Fig. 18 i), exhibiting a ratio LETI/WITI = 3.3.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 6 i-j), characterized by deeply and widely incised distal apex of aedeagus, and ratio LEAE/WIAE = 1.93. Medial distal excision of tegmen deep, deeply V-shaped (ratio DTIN/LETE ≈ 0.3), its inner margins evenly and gently curved; ratio LETE/WITE = 1.50. Main sclerites of internal sac (endophallus) similar to those in *M. vulpes*.
Female genitalia (ovipositor): distal apex as figured (Fig. 14 g), with subtruncate and minutely bisinuated apex of gonocoxites (ratio STLE/DSIA ≈ 1.00; ratio STLE/CGOW≈ 0.10; ratio GONL/CGOW ≈ 1.60). Basal portions of gonocoxites markedly directed proximad, their laterally directed apices bluntly but narrowly rounded. Ratio OVPL/GONL ≈ 2.60.
Variation: Length 2.5-2.7 mm.

Type Material. ♂ holotype, **China**: Shaanxi Province, Hua Mts. (= Hua Shan), 17-21 Jun 1991, R. Dunda lgt, 1 ♂ (NMPC). Paratypes: **China**: Shaanxi Province, Hua Mts. (= Hua Shan), 110 Km NE Xian, village of Huajin, 34.29.50N, 110.05.10E, 1275 m, 8-9 May 2011, granite cliffs, M.N. Balke & J. Hájek lgt, 1 ♀ (NMPC); Shanxi Province, Yongji near Wulaofeng, 29 May-1 Jun 2011, E. Kučera lgt, 1 ♂, 1 ♀ (NMPC, CAR); Sichuan Province, between Juizhaigou and Nanping, 11-14 Jun 2011, E. Kučera lgt, 1 ♂ (NMPC).

Distribution. **EPA**: SHA, SHX, SCH.
Only known from the few above listed localities in Central China (Shaanxi, Shanxi and Sichuan provinces), but probably more widespread also in neighbouring mountain areas of other central and central-southern provinces of China.

Chorotype. Central Sinic.

Host-plants. Unknown.

Habitat. On Hua Shan collected on granite cliffs, at intermediate altitude.

Phenology. **V-VI**. Probably active in Spring and early Summer, from may to early July.

DNA data. Not available.

Name derivation. Named from *Martes martes* (Linnaeus, 1758), the scientific name of the European Pine Marten, for analogy with the mammalian specific epithets attributed to the related and analogously orange-brown and long-haired *Meligethes vulpes* and *M. lutra*.

Taxonomic remarks. *Meligethes martes* sp. n. differs markedly from all other members of the *M. vulpes* complex, where it occupies a rather isolated taxonomic position, due to its smaller body size and the peculiar shape of its male and female genitalia.

1.3. The *Meligethes nepalensis*-group

Members of this species group combine simple tarsal claws, slightly emarginated or truncate anterior margin of clypeus, blackish coloration mostly concealed by long, recumbent and usually uniform whitish, silvery-gray to silvery-golden pubescence (this rendering their dorsal appearance mostly gray), and testaceous to piceous-brown legs and antennae (Figs 19 a-d); microsetae of posterior edge of pronotum in front of scutellum short, much shorter than width of 7th antennomere. Dorsal punctures on discal portion of head and pronotum slightly smaller than eye facet, dense, moderately impressed; dorsal punctures on discal portion of elytra distinctly smaller than eye facet, more dense, shallowly impressed. Interspaces between frontal and pronotal punctures usually smooth and shining, sometimes with faint traces of reticulation; interspaces between elytral punctures usually more densely reticulate and duller than on pronotum. Elytra usually with simple punctation, not distinctly transversely strigose, or only with feeble traces of strigosity around scutellum. Posterior pronotal angles more or less distinctly projecting backwards (Figs 19 a-d). Elytral apices truncately rounded in both sexes, or bluntly lobed at least in females, or in both sexes (Figs 2 g-h,19 a-d). Ratio WPR2/WELY= 0.88-0.95 (Figs 19 a-d). Apex of pygidium blunt, rounded and not projecting backwards in both sexes. Metaventrite in males more or less markedly impressed, without tufts of erect hairs. Antennae usually with relatively long flagellum and middle-sized antennal club (ratio ANLE/HWEA = 1.00-1.12; ratio CLLE/W10J = 1.45-1.58; ratio CLLE/ANLE = 0.29-0.30). Protarsi usually rather long in relation with corresponding tibiae, ratio LFTA/LETI ≈ 0.7 (Figs 19 a-d). Posterior tibiae in both sexes long and narrow, their inner margin in most cases almost straight, ratio WPTI/LPTI = 0.24-0.26 (Figs 19 a-d). Inner margins of parameres with distinct projections (Figs 7 a, c, e, g, i); distal setae of parameres comparatively short (Figs 7 a, c, e, g, i; ratio THLE/LETE = 0.05-0.07). Apex of aedeagus more or less shortly spatulate, without median incision (Figs 7 b, d, f, h, j). Main sclerites of endophallus small, widely rod-shaped and subparallele in dorsal view (typically ratio LSIS/LEAE ≈ 0.3, and ratio WSIS/LSIS ≈ 0.3; Fig. 7 k). Apex of ovipositor with minutely divaricated gonocoxites (these combined forming a narrow and moderately deep V-shaped incision, or an indented incision), or truncately emarginated (Figs 15 a-c); styli short, inserted not far from apex (Figs 15 a-c; ratio STLE/CGOW = 0.06-0.08; ratio STLE/DSIA = 0.4-0.7).
The included species range along eastern-southern Himalayan high altitude areas from Nepal to Bhutan and SW China (Yunnan, Sichuan, Shaanxi and Shanxi).

11. *Meligethes nepalensis* Easton, 1968

Meligethes nepalensis Easton, 1968: 42

Type locality. Nepal, Tate (Easton 1968).

Holotype. BMNH.

Diagnosis. *Meligethes nepalensis* can be easily differentiated by the closely related and allopatric *M. volkovichi* sp. n. from Yunnan by the shape of male genitalia, with slightly more elongate and more bluntly rounded apex of the aedeagus, by the entirely different shape of female genitalia, with distinctly furked but simple (not indented) apex of the ovipositor, by the slightly emarginated anterior edge of clypeus, and by the markedly wider body shape and front tarsi in males. *M. nepalensis* can be easily differentiated by the related and apparently at least parapatric *M. cinereus* and *M. griseus* from Bhutan and E Nepal by the shape of male genitalia, with much shorter and wider tegmen and aedeagus, by the shape of female genitalia, with distinctly bilobed apex of the ovipositor, and by the simple, truncately rounded elytral apex in both sexes, without any lobes even in females. Easily distinguished by the geographically allopatric *M. cinereoargenteus* sp. n. from China, which is characterized by very distinct male genitalia, peculiarly long 4th and 5th antennomeres, and by peculiarly wider male protarsal plates. Easily distinguished also by the geographically allopatric, not closely related but vaguely similar *M. aurifer* sp. n. from China, which is characterized by distinct female genitalia with more deeply divaricated apex of gonocoxites, quite distinct tegmen, wider posterior tibiae exhibiting more arcuated inner edge, and shorter antennae with more compact antennal club.

Description
Size: Length 2.8-3.3 mm, width 1.5-1.7 mm.
Body color and pubescence: dorsal and ventral body surface entirely black; pronotal and elytral sides typically same color as disc or slightly paler, piceous-brown. Legs and antennae usually brown, more rarely yellowish, with darker antennal club. Pubescence with long and recumbent setae, silvery-whitish to silvery-golden and dense, partially obscuring the dorsal surface (Fig. 19 a).

Dorsal habitus: body moderately convex, long and oval (Fig. 19 a); anterior margin of clypeus slightly emarginated. Ratio LPR1/LELY = 0.47-0.49; ratio WPR1/LPR1 = 1.75-1.85; ratio WPR2/LPR1 = 1.87-1.93; ratio WPR2/WPR1 = 1.03-1.05; ratio LELY/WELY = 1.05-1.07; ratio WPR1/WPRA = 1.48-1.52; ratio WPR1/WELY = 0.88-0.91; ratio WPR2/WELY = 0.92-0.95; pronotum with distinct posterior angles (Fig. 19 a), rather distinctly projecting backwards. Elytral punctures finer and more dense than those of pronotum, smaller in size to eye facets, oval, with feeble traces of transversal strigosity only around scutellum, usually separated by about one diameter in longitudinal direction and by less than one diameter in transverse direction, but variable in density. Interspaces between pronotal punctures usually smooth and shining; interspaces between elytral punctures usually reticulated and duller.

Ventral habitus: Male metaventrite exhibiting a marked mediolongitudinal impression, widened behind its midlength, besides it moderately convex, densely punctate, shining, at sides duller, without tufts of erect hairs. In females metaventrite flattened or gently depressed behind its midlength, the mediolongitudinal line hardly impressed.

Appendages: antennae comparatively long (Fig. 19 a), exhibiting ratio ANLE/HWEA = 1.09-1.12; ratio CLLE/W10J = 1.52-1.58; ratio L03J/W03J = 2.90-3.00; ratio L03J/L02J = 1.19-1.22; ratio L03J/L04J = 1.70-1.75. Male protarsal plates (Fig. 19 a) markedly wider than in females, ratio WFTA/LFTA = 0.34-0.38 (ratio WFTA/LFTA = 0.22-0.24 in females); protibiae with minute rather sharp teeth on most of their outer margins (Fig. 19 a), exhibiting a ratio LETI/WITI ≈ 3.5-3.8 in males, ≈ 3.8-3.9 in females. Posterior tibiae in both sexes long and narrow, their inner margin almost straight, ratio WPTI/LPTI = 0.24-0.26 (Fig. 19 a).

Male genitalia: shape of tegmen and aedeagus as figured (Figs 7 a-b), characterized by short parallel-sided aedeagus (ratio LEAE/WIAE = 1.78-1.82), shortly and bluntly spatulate distad. Medial distal excision of tegmen moderately deep, its inner margins with rather strong prominence, excision wider and U-shaped in its distal half, much narrower and V-shaped in proximal half; ratio LETE/WITE = 1.48-1.56; ratio DTIN/LETE ≈ 0.25. Main sclerites of internal sac (endophallus) small, rod-shaped in both dorsal and lateral view; ratio LSIS/LEAE ≈ 0.28; ratio WSIS/LSIS ≈ 0.25.

Female genitalia (ovipositor): distal apex as figured, with minutely divaricated gonocoxites (Fig. 15 a), these combined forming a narrow and moderately deep V-shaped incision; styli short, inserted distinctly before apex (Fig. 15 a; ratio STLE/CGOW ≈ 0.08; ratio STLE/DSIA ≈ 0.4; ratio GONL/CGOW ≈ 1.3). Basal portion of gonocoxites slightly directed distad. Ratio OVPL/GONL ≈ 2.20.

Variation: This species is scarcely variable, except for body sizes and colour of legs and antennae, as described above. Protarsal plates markedly smaller than in males.

Material examined. **Nepal**: Tate, 12 Jun 1952, T.D. Bourdillon lgt, holotype and two paratypes (BMNH); Koshi zone, road Basantapur-Chauki, 2500 m, 14 May 1993, G. Sabatinelli lgt, 5 ♂♂, 4 ♀♀ (CAR, NMPC); Mechi/Taplejung, 35 km NE Taplejung, Gyabla, Camp, 2700 m, 27.36.46N, 87.52.22.E, 8 May 2003, A. Weigel lgt, 2 ♂♂, 2 ♀♀ (NKME, NMPC); Mechi/Taplejung, 32 km NE Taplejung, way before Gyabla, 2410 m, 27.34.58N, 87.52.17E, 8 May 2003, A. Weigel lgt,1 ♀ (NKME). A single, small, examined ♀ from **India**: Darjeeling (= W Bengala), road Tonglu-Garibas [Sandakphu area], 2600-3050 m, 7 Jun 1975, W. Wittmer lgt, 1 ♀ (NHMB); this specimen exhibits an ovipositor nearly identical to that of *M. nepalensis*, and is therefore tentatively referred to this species.

Distribution. **EPA**: NP, ? SD.

M. nepalensis has a relatively narrow geographic range only including Nepal with certainty, but, as also suggested by the isolated female tentatively listed above from India, Darjeeling district, it should be likely present also in intermediate areas along the southern slopes of the eastern Himalaya, may be including Bhutan and Arunachal Pradesh.

Chorotype. Eastern Himalayan.

Host-plants. May be oligophagous as the related species, probably associated with flowers of native Himalayan *Rosa* spp. (Rosaceae). Adults, at least before and later their reproductive period, appear to be amply polyphagous, being frequently present on flowers of *Rhododendron* spp. (Ericaceae).

Habitat. Arid slopes at forest margins, high altitude scrubs dominated by *Rhododendron* spp., stream sides; at least between 2300-4000 m.

Phenology. **V-VI**-VII.

DNA data. Not available.

Taxonomic remarks. *Meligethes nepalensis* is widespread in Nepal, but evidently rare elsewhere in eastern Himalayan areas; specific identity of examined specimen from N India needs further material (including males), to be confirmed with certainty.

12. *Meligethes volkovichi* sp. n.

Type locality. SW China, Yunnan, Cang Mts. [= Cangshan] near Dali.

Diagnosis. *Meligethes volkovichi* sp. n. can be easily differentiated by the closely related and allopatric *M. nepalensis* by the peculiar shape of female genitalia, with mul-

tifid distal apex of the ovipositor, the different shape of the apex of the aedeagus, the markedly narrower front tarsi in males, the smaller body size, and by the slightly more elongate body in both sexes.

Description (♂ holotype)
Size: 2.4 mm length, 1.3 mm width.
Body color and pubescence: dorsal and ventral surface blackish (Fig. 19 b), only pronotal sides piceous-brown. Legs and first two antennoemeres orange-brown, with darker, brown antennomeres iii-xi, including antennal club. Pubescence with rather long, dense and prostrate silvery to silvery-golden setae, only partly obscuring the dorsal surface.
Dorsal habitus: body scarcely convex, weak, oblong and oval (Fig. 19 b); anterior margin of clypeus transversely truncate. Ratio LPR1/LELY = 0.48; ratio WPR1/LPR1 = 1.65; ratio WPR2/LPR1 = 1.60; ratio WPR2/WPR1 = 1.01; ratio LELY/WELY= 1.05; ratio WPR1/ WPRA = 1.50; ratio WPR1/WELY = 0.89; ratio WPR2/WELY = 0.90.
Pronotum with distinct, blunt posterior angles, almost at right angle (Fig. 19 b), barely distinctly projecting backwards; elytra separately arcuately rounded at apex. Pronotal punctures moderately marked and dense, circular, as large as in size to eye facets, separated by nearly one diameter. Elytral punctures markedly finer and confuse, slightly more dense than those of pronotum, without traces of transversal strigosity even around scutellum. Interspaces between pronotal punctures smooth and shining; interspaces between elytral punctures with distinct reticulation, and much duller. Pygidium with dense, very fine and shallow punctures, its apex rounded.
Ventral habitus: male metaventrite almost flat, only exhibiting a barely distinct mediolongitudinal impression, densely punctate, shining, without tufts of erect hairs or tubercles.
Appendages: antennae moderately long (Fig. 19 b), exhibiting ratio CLLE/W10J = 1.53; ANLE/HWEA = 1.10; ratio L03J/W03J = 2.90; ratio L03J/L02J = 1.20; ratio L03J/L04J = 1.50. Male protarsal plates (Fig. 19 b) relatively narrow, only slightly wider than in female, ratio WFTA/LFTA = 0.29; protibiae long, weak and narrow, with peculiarly minute and moderately sharp teeth on distal third of their outer margins (Fig. 19 b), ratio LETI/WITI = 4.0. Posterior tibiae long and narrow, their inner margin almost straight, ratio WPTI/LPTI = 0.25 (Fig. 19 b).
Male genitalia: shape of tegmen and aedeagus as figured (Figs 7 c-d), characterized by moderately long and parallel-sided aedeagus (ratio LEAE/WIAE = 1.97), arcuately narrowed in distal third and not spatulate distally, with obtusely narrowed apex. Tegmen relatively short, its medial distal excision moderately deep but markedly narrow, its inner margins with markedly distinct prominence; ratio LETE/WITE = 1.53; ratio DTIN/LETE ≈ 0.31. Main sclerites of internal sac (endophallus) relatively narrow, rod-shaped; ratio LSIS/LEAE = 0.35; ratio WSIS/LSIS ≈ 0.25.
Female genitalia (ovipositor): distal apex as figured, with minute U-shaped excision separating the divaricated apices of the gonocoxites, each of them being distinctly indented in the middle (Fig. 15 b; a condition surpringly similar to that exhibited by the rather distantly related *M. stenotarsus* sp. n., Figs 15 i-j); styli short, inserted distinctly before apex (Fig. 15 b; ratio STLE/CGOW ≈ 0.07; ratio STLE/DSIA ≈ 0.5; ratio GONL/CGOW ≈ 1.35). Basal portion of gonocoxites distinctly and arcuately directed proximad. Ratio OVPL/GONL ≈ 2.50.
Variation: The ♀ paratype is 2.7 mm length, 1.4 width, and agrees with ♂ holotype in all characters, including body shape and colouration, pubescence, and punctuation. Protarsal plates distinctly narrower than in ♂ holotype.

Type material. Holotype, ♂, **China**: Yunnan, near Dali, Cangshan Mts., 6 Jun 2002, 3500-3700 m, 25.41.06N, 100.06.13E, forest trail, A. Konstantinov & M. Volkovich lgt (CAS). Paratype: same data as holotype, 1 ♀ (CAR).

Distribution: **EPA**: YUN.
M. volkovichi sp. n. is only known from the type locality in SW China, Yunnan.

Chorotype. SW Sinic.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native *Rosa* sp. (Rosaceae).

Habitat. High altitude scrubs; collected at 3500-3700 m.

Phenology. **VI**. Probably active in Spring and early Summer, from late May to July.

DNA data. Not available.

Name derivation. named for our colleague Mark Gabrielevich Volkovich (St. Petersburg, Russia), renowned specialist of Coleoptera Buprestidae, who collected the species in company with our colleague A. Konstantinov (Whashington, USA).

Taxonomic remarks. *Meligethes volkovichi* sp. n. from SW China seems to represent the sister-species of *M. nepalensis* from Nepal, both species sharing similar male genitalia (Figs 7 a-d), despite the quite different shape of their ovipositors (Figs 15 a-b).

13. *Meligethes cinereus* Jelínek, 1978

Meligethes cinereus Jelínek, 1978: 213

Type locality. Bhutan, Thimphu (Jelínek 1978).

Holotype. NHMB (Jelínek 1978).

Diagnosis. *Meligethes cinereus* can be easily differentiated by the closely related and apparently parapatric *M. griseus* by the shape of male genitalia, with longer aedeagus exhibiting more gently narrowed subtruncate apex, by the more deeply incised tegmen, by the slightly lobed male elytral apex, by the much more markedly lobed female elytral apex, and by its ovipositor with distinctly shorter gonocoxites; distinguished by *M. nepalensis* by its much longer and narrower male genitalia, and by the more or less distinctly lobed elytral apex, which is simple, truncately rounded in both sexes in *M. nepalensis.* Easily distinguished by the geographically allopatric *M. cinereoargenteus* sp. n., which is characterized by very distinct male genitalia, peculiarly long 4th and 5th antennomeres, by peculiarly wider male protarsal plates, and by obtusely truncated elytral distal apex. Easily distinguished also by the vaguely similar and geographically allopatric *M. aurifer* sp. n., which is characterized by distinct male and female genitalia, much wider posterior tibiae exhibiting more arcuated inner edge, obtusely truncated elytral distal apex, distinctly golden pubescence, and shorter, more compact antennae and antennal club.

Description

Size: Length 2.4-3.0 mm, width 1.3-1.5 mm.

Body color and pubescence: dorsal and ventral body surface entirely black (as in Fig. 19 c); pronotal and elytral sides typically same color as disc or slightly paler, piceous-brown. Legs and antennae testaceous to yellowish, with antennal joints iii-viii infuscate, and darker antennal club. Pubescence with long and recumbent silvery-whitish to silvery-golden setae, partially obscuring the dorsal surface.

Dorsal habitus: body moderately convex, long and oval (as in Fig. 19 c); anterior margin of clypeus slightly emarginated. Ratio LPR1/LELY = 0.46-0.48; ratio WPR1/LPR1= 1.65-1.68; ratio WPR2/LPR1 = 1.68-1.70; ratio WPR2/WPR1 = 1.00-1.01; ratio LELY/WELY = 1.08-1.10; ratio WPR1/WPRA = 1.60-1.63; ratio WPR1/WELY = 0.87-0.88; ratio WPR2/WELY = 0.88-0.89; pronotum with distinct posterior angles (as in Fig. 19 c), rather indistinctly projecting backwards. Elytral punctures slightly finer and more dense than those of pronotum, smaller in size to eye facets, oval, with feeble traces of transversal strigosity only around scutellum, separated by about one diameter in longitudinal direction and by less than one diameter in transverse direction. Interspaces between pronotal punctures mostly smooth and shining, only in proximal third with traces of reticulation; interspaces between elytral punctures more or less distinctly reticulated and less shining. Elytral apex markedly distinctly lobed in females, only slightly lobed in males.

Ventral habitus: male metaventrite exhibiting a marked mediolongitudinal impression, arcuately widened posteriorly behind its proximal third, besides it moderately convex, densely punctate, shining, at sides duller, without tufts of erect hairs. In females metaventrite flattened or gently depressed behind its midlength, the mediolongitudinal line hardly impressed.

Appendages: antennae comparatively long (as in Fig. 19 c), exhibiting ratio ANLE/HWEA= 1.00-1.02; ratio CLLE/W10J = 1.54-1.58; ratio L03J/W03J = 2.65-2.75; ratio L03J/L02J= 1.29-1.35; ratio L03J/L04J = 1.90-1.95. Male protarsal plates markedly wider than in females, ratio WFTA/LFTA = 0.34-0.36 (ratio WFTA/LFTA = 0.25-0.26 in females); protibiae with minute rather sharp teeth on most of distal half of their outer margins (as in Fig. 19 c), exhibiting a ratio LETI/WITI= 3.3-3.4 in males, ≈ 3.4-3.5 in females. Posterior tibiae in both sexes long and narrow, their inner margin almost straight, ratio WPTI/LPTI = 0.24-0.26 (as in Fig. 19 c).

Male genitalia: shape of tegmen and aedeagus as figured (Figs 7 g-h), characterized by long parallel-sided aedeagus (ratio LEAE/WIAE = 2.95-3.00), gently narrowed in distal third and spatulate distally. Medial distal excision of tegmen deep, its inner margins with feeble prominence, excision wider and U-shaped in its distal half, much narrower and V-shaped in proximal half; ratio LETE/WITE = 1.80-1.85; ratio DTIN/LETE ≈ 0.4. Main sclerites of internal sac (endophallus) relatively small, rod-shaped in both dorsal and lateral view.

Female genitalia (ovipositor): distal apex as figured, with minutely divaricated gonocoxites (Fig. 15 p), these combined forming a narrow and shallow V-shaped incision; styli short, inserted distinctly before apex (Fig. 15 p; ratio STLE/DSIA ≈ 0.90; ratio STLE/CGOW ≈ 0.06; ratio GONL/CGOW ≈ 1.23). Gonocoxites relatively short, ratio OVPL/GONL ≈ 2.80; basal portion of gonocoxites almost transversely placed.

Variation: This species is scarcely variable, except for body sizes, as described above.

Material examined. **Bhutan**: Thimphu, 27 Apr 1972, ♂ holotype and five ♂♂ and ♀♀ paratypes (NHMB, NMPC, CAR); Thimphu, Taksang, 2200-2700 m, 2 May 1972, 1 ♀ paratype (NHMB); 'Dorjula' [locality not found], 2900-3100 m, 6 Jun 1972, 1 ♂ and 1 ♀ paratypes (NHMB).

Distribution. **EPA**: BT.

M. cinereus has an apparently limited geographic range, only including western Bhutan, but it should be likely present also in neighbouring areas along the southern slopes of the eastern Himalaya.

Chorotype. Eastern Himalayan.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a middle-high altitude native Himalayan *Rosa* sp. (Rosaceae).

Habitat. Slopes at forest margins, high altitude scrubs, stream sides; at least between 2200-3100 m.

Phenology. IV-**V-VI**-VII.

DNA data. Not available.

Taxonomic remarks. *Meligethes cinereus* and *M. griseus* represent a couple of closely related and parapatric species, markedly differentiated each other in sexual characters only. Chen et al. (2013) recently hypothesized their possible synonymy, which appears completely unsupported by currently available morphological data.

14. *Meligethes griseus* Jelínek, 1978

Meligethes griseus Jelínek, 1978: 216
Type locality. Bhutan, Kotoka-Gogona (Jelínek 1978).

Holotype. NHMB (Jelínek 1978).

Diagnosis. *Meligethes griseus* can be easily differentiated by the closely related and apparently parapatric *M. cinereus* by the shape of male genitalia (with shorter aedeagus exhibiting more abruptly narrowed subtruncate apex and less deeply incised tegmen) and of the oviposistor (with distinctly longer gonocoxites), by the truncately rounded male elytral apex, and by the only hardly distinctly lobed female elytral apex; distinguished by *M. nepalensis* by its much longer and narrower male genitalia, and by the slightly but distinctly lobed female elytral apex, which is simple, truncately rounded in both sexes in *M. nepalensis*. Easily distinguished by the geographically allopatric *M. cinereoargenteus* sp. n., which is characterized by very distinct male genitalia, peculiarly long 4th and 5th antennomeres, and by peculiarly wider male protarsal plates. Easily distinguished also by the vaguely similar and geographically allopatric *M. aurifer* sp. n., which is characterized by distinct male and female genitalia, wider posterior tibiae exhibiting more arcuated inner edge, distinctly golden pubescence, and shorter, more compact antennae and antennal club.

Description
Size: Length 3.1-3.2 mm, width 1.5-1.7 mm.
Body color and pubescence: dorsal and ventral body surface entirely black (Fig. 19 c); pronotal and elytral sides typically same color as disc or slightly paler, piceous-brown. Legs and antennae testaceous to yellowish, with antennal joints iii-viii infuscate, and darker antennal club. Pubescence with long and recumbent silvery-whitish to silvery-golden setae, partially obscuring the dorsal surface.
Dorsal habitus: body moderately convex, long and oval (Fig. 19 c); anterior margin of clypeus slightly emarginated. Ratio LPR1/LELY = 0.47-0.49; ratio WPR1/LPR1 = 1.65-1.68; ratio WPR2/LPR1 = 1.68-1.70; ratio WPR2/WPR1 = 1.00-1.01; ratio LELY/WELY = 1.08-1.09; ratio WPR1/WPRA = 1.60-1.63; ratio WPR1/WELY = 0.87-0.88; ratio WPR2/WELY = 0.88-0.89; pronotum with distinct posterior angles (Fig. 19 c), rather indistinctly projecting backwards. Elytral punctures slightly finer and more dense than those of pronotum, smaller in size to eye facets, oval, with feeble traces of transversal strigosity only around scutellum, separated by about one diameter in longitudinal direction and by less than one diameter in transverse direction. Interspaces between pronotal punctures mostly smooth and shining, only in proximal third with traces of reticulation; interspaces between elytral punctures more or less distinctly reticulated and less shining. Elytral apex hardly distinctly lobed in females, normally truncated in males.
Ventral habitus: male metaventrite exhibiting a marked mediolongitudinal impression, arcuately widened posteriorly behind its proximal third, besides it moderately convex, densely punctate, shining, at sides duller, without tufts of erect hairs. In females metaventrite flattened or gently depressed behind its midlength, the mediolongitudinal line hardly impressed.
Appendages: antennae comparatively long (Fig. 19 c), exhibiting ratio ANLE/HWEA = 1.00-1.02; ratio CLLE/W10J = 1.54-1.58; ratio L03J/W03J = 2.65-2.75; ratio L03J/L02J = 1.29-1.35; ratio L03J/L04J = 1.90-1.95. Male protarsal plates markedly wider than in females, ratio WFTA/LFTA = 0.34-0.36 (ratio WFTA/LFTA = 0.25-0.26 in females); protibiae with minute rather sharp teeth on most of distal half of their outer margins (Fig. 19 c), exhibiting a ratio LETI/WITI ≈ 3.3-3.4 in males, ≈ 3.4-3.5 in females. Posterior tibiae in both sexes long and narrow, their inner margin almost straight, ratio WPTI/LPTI = 0.24-0.26 (Fig. 19 c).
Male genitalia: shape of tegmen and aedeagus as figured (Figs 7 e-f), characterized by long parallel-sided aedeagus (ratio LEAE/WIAE = 2.35-2.50), abruptly narrowed and shortly and bluntly subtruncate distally. Medial distal excision of tegmen moderately deep, its inner margins with feebly distinct prominence, excision wider and U-shaped in its distal half, narrower and V-shaped in proximal half; ratio LETE/WITE = 1.65-1.72; ratio DTIN/LETE ≈ 0.27. Main sclerites of internal sac (endophallus) relatively small, rod-shaped in both dorsal and lateral view.
Female genitalia (ovipositor): distal apex as figured, with not divaricated gonocoxites (Fig. 15 c), these combined forming only a narrow and moderately distinct distal emargination; styli short, inserted distinctly before apex (Fig. 15 c; ratio STLE/DSIA ≈ 0.7; ratio STLE/CGOW ≈ 0.06; ratio GONL/CGOW ≈ 1.4). Basal portion of gonocoxites directed outwards, perpendicularly to the longitudinal axis of the ovipositor. Ratio OVPL/GONL ≈ 2.40.
Variation: This species is scarcely variable, except for body sizes, as described above.

Material examined. **Bhutan**: Kotoka-Gogona, 2600-3400 m, 10 Jun 1972, holotype and four paratypes (ZSM, NHMB, NMPC, CAR). As reported by Jelínek (1978), al-

so a ♀ from **Nepal**: Likhu Khola Valley, 1700 m, 1 Aug 1962, G. Ebert lgt (ZSM), probably belongs to this species.

Distribution. **EPA**: BT, NP.
M. griseus is a rare species, exhibiting an apparently restricted geographic range only including Bhutan and eastern Nepal, but it should be likely present also in Sikkim and in neighbouring areas along the southern slopes of the eastern Himalaya.

Chorotype. Eastern Himalayan.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a middle-high altitude native Himalayan *Rosa* sp. (Rosaceae).

Habitat. Arid slopes at forest margins, high altitude scrubs, stream sides; at least between 1700-3400 m.

Phenology. **VI**-**VII**-VIII.

DNA data. Not available.

15. *Meligethes cinereoargenteus* sp. n.

Type locality. Central China, Sichuan, Erlang Mts. [= Erlangshan], E of Luding.

Diagnosis. *Meligethes cinereoargenteus* sp. n. can be eas-

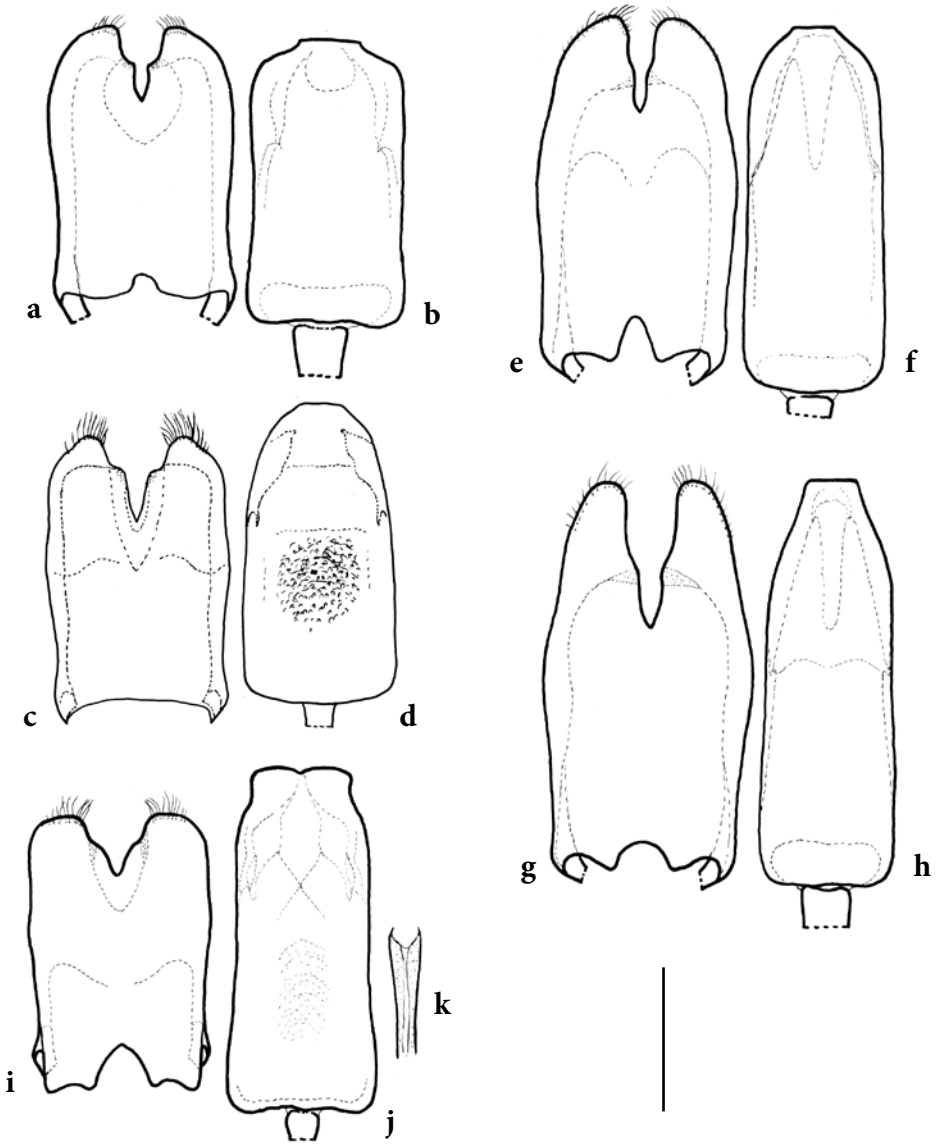

Fig. 7 − Male genitalia of *Meligethes* spp. (**a**, **c**, **e**, **g**, **i**, tegmen, dorsal view; **b**, **d**, **f**, **h**, **j**, median lobe of the aedeagus, dorsal view; **k**, main sclerites of the aedeagus, dorsal view): **a**, **b**, *M. nepalensis* Easton, 1968; **c**, **d**, *M. volkovichi* sp. n.; **e**, **f**, *M. griseus* Jelínek, 1978; **g**, **h**, *M. cinereus* Jelínek, 1978; **i**, **j**, **k**, *M. cinereoargenteus* sp. n. Scale bar: 0.2 mm.

ily differentiated by the closely related and allopatric *M. griseus, M. cinereus,* and *M. nepalensis* by the peculiar shape of male genitalia, by the peculiarly long 4th and 5th antennomeres, and by the peculiarly wide protarsal plates in males.

Description (♂ holotype)
Size: 3.3 mm length, 1.6 mm width.
Body color and pubescence: dorsal and ventral surface blackish (Fig. 19 d), only pronotal sides piceous-brown. Legs and antennae orange-yellowish, with dark, blackish-brown antennomeres vii-xi, including antennal club. Pubescence with rather long, dense and prostrate silvery to silvery-golden setae, partly obscuring the dorsal surface.
Dorsal habitus: body moderately convex, oblong and oval (Fig. 19 d); anterior margin of clypeus slightly emarginated. Ratio LPR1/LELY = 0.45; ratio WPR1/LPR1 = 1.90; ratio WPR2/LPR1 = 1.92; ratio WPR2/WPR1 = 1.01; LELY/WELY = 1.06; ratio WPR1/WPRA = 1.70; ratio WPR1/WELY = 0.92; ratio WPR2/WELY = 0.93.
Pronotum with distinct, blunt posterior angles, almost at right angle (Fig. 19 d), distinctly projecting backwards; elytra bluntly subtruncate at apex. Pronotal punctures fine and dense, circular, slightly smaller in size to eye facets, separated by nearly one diameter. Elytral punctures slightly finer but more dense than those of pronotum, oval, with hardly visible traces of transversal strigosity only around scutellum. Interspaces between pronotal punctures smooth and shining; interspaces between elytral punctures with faint traces of reticulation, and relatively duller. Pygidium with dense, fine and shallow punctures, its apex rounded.
Ventral habitus: male metaventrite exhibiting a marked mediolongitudinal impression, arcuately widened posteriorly behind its proximal third, besides it moderately convex, densely punctate, shining, at sides duller, without tubercles nor tufts of erect hairs.
Appendages: antennae moderately long (Fig. 19 d), exhibiting relatively elongate club, with peculiarly long iv and v antennomeres, ratio CLLE/W10J = 1.53; ratio ANLE/HWEA = 1.05; ratio L03J/W03J = 2.70; ratio L03J/L02J = 1.16; ratio L03J/L04J= 1.21; ratio L03J/L05J = 1.28. Protarsal plates peculiarly wide, ratio WFTA/LFTA = 0.45; protibiae with peculiarly minute and rather sharp teeth on distal third of their outer margins (Fig. 19 d), ratio LETI/WITI = 2.8. Posterior tibiae long and narrow, their inner margin almost straight, ratio WPTI/LPTI = 0.26 (Fig. 19 d).
Male genitalia: shape of tegmen and aedeagus as figured (Figs 7 i-j), characterized by long parallel-sided aedeagus (ratio LEAE/WIAE = 2.35), bottle-nake-like narrowed in distal third and strongly spatulate distally, with minute median excision. Tegmen peculiarly parallel-sided, its medial distal excision moderately deep, its inner margins with markedly distinct blunt prominence, excision widely V-shaped; ratio LETE/WITE = 1.50; ratio DTIN/LETE ≈ 0.25. Main sclerites of internal sac (endophallus) relatively narrow, rod-shaped, as figured (Fig. 7 k); ratio LSIS/LEAE = 0.35; ratio WSIS/LSIS ≈ 0.25.
Female: unknown.
Variation: The ♂ paratype, despite being partly damaged, agrees with holotype in all characters, including size, shape and body colouration, and male genitalia.

Type material. Holotype, ♂, **China**: Sichuan, Erlang Mts. [= Erlangshan], E of Luding, 2600-2700 m, 14-15 Jun 2003, S. Murzin lgt (NMPC). Paratype, one ♂, same data as holotype (CAR).

Distribution. **EPA**: SCH.
M. cinereoargenteus sp. n. is known only from the type locality in central China, Sichuan.

Chorotype. Central Sinic.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native Chinese *Rosa* sp. (Rosaceae).

Habitat. High altitude scrubs; collected at 2600-2700 m.

Phenology. **VI**. Probably active in Spring and early Summer, from late May to July.

DNA data. Not available.

Name derivation. Named for the long silvery hairs covering most of its dorsal surface [From the Latin *cinereus,* meaning "ash-colored", and *argenteus,* meaning "silvery"].

Taxonomic remarks. *Meligethes cinereoargenteus* sp. n. seems to represent a rather isolated taxon among members of the here defined *M. nepalensis* species complex, probably more closely related to the couple [*M. griseus* + *M. cinereus*] from Bhutan and neighbouring areas.

1.4. The *Meligethes auripilis/binotatus*-group

Members of this large species group combine simple tarsal claws, more or less distinctly emarginated anterior margin of clypeus (with the single exception of *M. stenotarsus* sp. n., where it is nearly truncated), very variable dorsal coloration (entirely blackish; or mostly blackish with orange-reddish pronotum, and pronotal disc with one or two darker discal spots; or almost entirely orange-reddish), partly concealed (chiefly in the posterior half of pronotum and on scutellum) by long, recumbent and golden, silvery-golden or silvery pubescence. Posterior pronotal edge with a series of peculiarly long, mostly bifid, microsetae, concentrated in its middle portion, in front of scutellum, each nearly as long as width of 7th antennomere. Legs and antennae uniformly testaceous, frequently with darker antennal club, or

uniformly darker, brown to piceous-brown (Figs 19 e-i, 20 a-g). Dorsal punctures on discal portion of head and pronotum usually slightly smaller than eye facet, dense, moderately impressed; dorsal punctures on discal portion of elytra distinctly smaller than eye facet, more dense, shallowly impressed. Interspaces between frontal and pronotal punctures usually smooth and shining, sometimes with faint traces of reticulation; interspaces between elytral punctures usually more densely reticulate and duller than on pronotum. Elytra with variable punctation, in some species not distinctly transversely strigose, or only with feeble traces of strigosity around scutellum, in other species finely and almost uniformly microscopically strigose. Posterior pronotal angles more or less distinctly projecting backwards (Figs 19 e-i, 20 a-g). Elytral apices truncately rounded and never bluntly lobed in both sexes (Figs 19 e-i, 20 a-g). Ratio WPR2/WELY = 0.88-0.95 (Figs 19 e-i, 20 a-g). Apex of pygidium bluntly rounded in both sexes, or minutely projecting backwards in males of some species, exceptionally also in females (Figs 19 e-i, 20 a-g). Metaventrite in males more or less markedly impressed, without tufts of erect hairs. Antennae usually with relatively long flagellum (in some species this being slightly longer in males than in females) and middle-sized antennal club (ratio ANLE/HWEA = 1.02-1.05; ratio CLLE/W10J = 1.35-1.53; ratio CLLE/ANLE = 0.27-0.29). Protarsi usually rather long in relation with corresponding tibiae, ratio LFTA/LETI ≈ 0.7 (Figs 19 e-i, 20 a-g). Posterior tibiae in both sexes usually relatively wide, their inner margin distinctly arcuated, in a single species weak and narrow, their inner margin almost straight, ratio WPTI/LPTI = 0.25-0.33. Inner margins of parameres with markedly distinct projections (Figs 8-10); distal setae of parameres comparatively short (Figs 8-10; ratio THLE/LETE = 0.07-0.09). Apex of aedeagus variably shaped, more or less shortly and widely truncate-spatulate, pointed or obtusely rounded, without narrow median incision (Figs 8-10). Main sclerites of endophallus usually long, widely rod-shaped and subparallele in dorsal view (typically ratio LSIS/LEAE ≈ 0.3, and ratio WSIS/LSIS ≈ 0.3; Figs 8-10). Ovipositors with combined apices of gonocoxites truncate, subtruncate, angulately emarginated, or even markedly biphid; styli short, inserted not far from apex (Figs 15 d-m, 16 a; ratio STLE/CGOW = 0.06-0.08; ratio STLE/DSIA = 0.4-0.7).

The included species range along eastern-southern Himalayan middle and high altitude areas in NE India, Nepal, in southern, central and NE China, northwards to the Maritime Province (Primorje) of the Russian Far East.

16. *Meligethes binotatus* Grouvelle, 1894

Meligethes binotatus Grouvelle, 1894, in: Grouvelle & Guillebeau, 1894: 460

Type locality. India, "Chacuba" (Grouvelle & Guillebeau 1894; the locality does not match with any Indian toponym known to us. We suspect a possible uncorrect transliteration for Chabua, a small town in the Assam district, an area where *Meligethes binotatus* is known to occur).

Lectotype. MHNP (established *in collectione* by Kirejtshuk in 1977; lectotype designation here formally accepted).

Diagnosis. *Meligethes binotatus* can be easily differentiated by the closely related and apparently geographically vicariant *M. semenovi* by the differently shaped male genitalia, the aedeagus exhibiting a longer spatulate and truncated apex, by the slightly different, less distinctly emarginated apex of the ovipositor in females, and by the rounded apex of pygidium in both sexes. Easily distinguished by the geographically sympatric *M. marmota* sp. n., which is characterized by body colouration entirely pale brown-yellowish, weak and narrower posterior tibiae, and by amply distinct male genitalia, as well as from the geographically sympatric *M. tryznai* sp. n., which is characterized by entirely pale brown-yellowish elytra and less dark and distinct pronotal discal spots, by more markedly impressed metaventrite in males, by distally obtusangulate pygidium in females, by distinct male genitalia, with much more parallel-sided tegmen, and by more widely truncate apex of the ovipositor. The geographically sympatric *M. stenotarsus* sp. n., is characterized by entirely pale brown-yellowish elytra and less dark and distinct pronotal discal spots, markedly longer elytra, nearly subtruncate anterior edge of clypeus, distinct male genitalia with narrower apex of parameres and more widely spatulated distal apex of the median lobe of aedeagus, and by characteristically incised apex of the ovipositor.

Description

Size: Length 2.4-3.3 mm, width 1.4-1.8 mm.

Body color and pubescence: External habitus and colouration as figured (Fig. 19 e); dorsal and ventral body surface blackish in not teneral specimens, pronotum always orange-yellowish, with pronotal disk blackish or piceous-brown, frequently the discal darker area being organized in two distinct, separate, and parallelle spots; elytral sides typically same color as disc. Legs and antennae entirely orange-yellowish, frequently with darker antennal club (antennae beginning from antennomere iii or iv frequently infuscate). Pubescence with long and recumbent setae, golden to silvery-whitish and dense, partially obscuring the dorsal surface, usually denser and longer in the posterior pronotal third, shorter on elytra. Pubescence of discal portion of pronotum piceous-brown to blackish, according to tegumental colouration of the pronotal discal area.

Dorsal habitus: body rather convex, wide and oval (Fig. 19 e); ratio LPR1/LELY = 0.55-0.57; ratio WPR1/LPR1 = 1.78-1.82; ratio WPR2/LPR1 = 1.83-1.85; ratio WPR2/WPR1= 1.02-1.03; ratio LELY/WELY = 0.93-0.95; ratio WPR1/WPRA = 1.78-1.82; ratio WPR1/WELY = 0.91-

0.93; ratio WPR2/WELY = 0.94-0.96; barely distinctly arcuately emarginated anterior margin of clypeus, pronotum with distinct but blunt posterior angles (Fig. 19 e), distinctly projecting backwards. Elytral punctures slightly finer and more dense than those of pronotum, slightly smaller in size to eye facets, oval, separated by less than one diameter, with fine but distinct and rather uniform transversal strigosity. Interspaces between pronotal punctures more or less shining; interspaces between elytral punctures usually more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex obtusely rounded in both sexes (Fig. 19 e).

Ventral habitus: Male metaventrite exhibiting a moderate mediolongitudinal impression, widened behind its midlength, besides it moderately convex, densely punctate, shining, at sides duller, without tufts of erect hairs. In females metaventrite flattened or gently depressed behind its midlength, the mediolongitudinal line hardly impressed.

Appendages: antennae (Fig. 19 e) rather long, exhibiting ratio ANLE/HWEA = 1.06-1.15; ratio CLLE/W10J = 1.35-1.39; ratio L03J/W03J = 3.10-3.25; ratio L03J/L02J = 1.35-1.40; ratio L03J/L04J =1.24-1.32. Male protarsal plates (Fig. 19 e) markedly wider than in females, ratio WFTA/LFTA= 0.44-0.48 (ratio WFTA/LFTA = 0.22-0.25 in females); protibiae with minute rather sharp teeth on most of their outer margins (Fig. 19 e), exhibiting a ratio LETI/WITI ≈ 3.3-3.5 in males, ≈ 3.5-3.7 in females. Posterior tibiae in both sexes relatively wide, their inner margin distinctly arcuated (Fig. 19 e), ratio WPTI/LPTI = 0.31-0.33.

Male genitalia: shape of both tegmen and aedeagus as figured (Figs 8 a-b), characterized by markedly parallel-sided aedeagus, ratio LEAE/WIAE = 2.40-2.50, gently and longly narrowed distad, with widely spatulated-truncate aedeagal apex. Tegmen arcuately widened and widest at distal third, medial distal excision deep, widely V-shaped (ratio DTIN/LETE ≈ 0.3), its inner margins with marked projection; ratio LETE/WITE = 1.53-1.56. Main sclerites of internal sac (endophallus) relatively short, rod-shaped in dorsal view, vaguely 7-shaped in lateral view, as figured (Figs 8 c-d); ratio LSIS/LEAE ≈ 0.36; ratio WSIS/LSIS ≈ 0.4.

Female genitalia (ovipositor): distal apex as figured (Fig. 15 d), narrowly emarginated-subtruncated (ratio STLE/DSIA ≈ 0.90; ratio STLE/CGOW ≈ 0.09; ratio GONL/CGOW ≈ 1.6). Basal portions of gonocoxites moderately directed proximad, their laterally directed apices blunt. Ratio OVPL/GONL ≈ 2.70.

Variation: This species is markedly variable in body size and body colouration, as above described.

Material examined. **India**: "Chacuba, TYPE", MHNP (Grouvelle & Guillebeau 1894; probably Assam District, Chabua, see discussion above); Darjeeling District, [Kanchenjunga], Bhanu Bhakta [Sarini, Observation Hill], Rang lgt 26 Apr 1987, 5 ♂♂, 7 ♀♀ (MHNG, NMPC, CAR); Uttar Pradesh, Joshimath, Auli, 2800 m, 13-17 Jun 1994, M. Snížek lgt, 1 specimen (NMPC); Uttaranachal state, Nainital, 1900-2100 m, 19-21 Jun 2003, Z. Kejval & M.Trýzna lgt, 1 specimen (NMPC). **Nepal**: Kathmandu Valley, Godawari, 1500 m, 17 May 1983, M. Brancucci lgt, 2 ♂♂, 2 ♀♀ (MHNG, CAR); Katim, Godawari, 13 Jun 1990, S. Bílý lgt, 1 (NMPC); Dhawalagiri, Myagdi Dis., Ghara Khola, Ghorepani-Shikha, 2000-2800 m, 12 Jun 1986, J. Probst lgt, 1 specimen (NMPC); P: Mahakali, D: Darchula, 1 km NE Batar, valley at Chamilya Khola, 29.51.29N, 80.54.34E, 2100 m, river-side, 5-11 Jun 2005, A. Weigel lgt, 1 specimen (NKME; Karnali Prov., Jumla bis Hochtal Gothichaur, 2400-2800 m, 26 May 2007, J. Weipert lgt, 1 ♂ (NKME); Jumla-Padmara, 2300-2750 m, 27 May 1977, W. Wittmer lgt, 4 specimens (NHMB); Karnali Region, Pina, Rara Lake, [3100 m], 30 May 1977, W. Wittmer lgt, 2 ♂♂ (MHNG, NMPC); Bagmati, Sindhupa Tchok, Manegero, 2500 m, 13 Jun 1989, C. Holzschuh lgt, 1 specimen (NMPC); Mustang, Kali-Gandaki-Khola, Kalopani, 2400 m, 17-19 May 1984, C. Holzschuh lgt, 2 ♂♂, 2 ♀♀ (NHMW, NMPC, CAR); NW Pokhara, Kali-Gandaki-Khola, Tatopani, 1100-1300 m, 12-14 May 1984, C. Holzschuh lgt, 13 specimens (NMPC, CAR); Arun walley, Chichila-Tumlingtar, 1000-2000 m, 9 Jun 1988, Lebisch & Probst lgt, 1 ♀, (NMPC). **Bhutan**: Chimakothi, 1900-2300 m, 22 May 1972, Nat.-Hist. Museum Basel Bhutan Expedition, 1 ♀; ibidem, 16 May 1972, 1 ♂ (NMPC); Thimphu, Tak Sang, 2200-2300 m, 2 May 1972, Nat.-Hist. Museum Basel Bhutan Expedition, 1 ♀ (NMPC); Thimphu Distr., Taba, 2600 m, 20-30 Jun 1988, C. Holzschuh lgt, 3 specimens (NKME); ibidem, 2500-2600 m, 15-22 Aug 1990, C. Holzschuh lgt, 2 specimens (NKME); Umg. Thimphu, 2500 m, 1-18 Jun 1988, C. Holzschuh lgt, 1 specimen (NKME). **China**: Yunnan, Haba Xues mts. (= Haba Xueshan), 1.3-2.0 Km S of Haba, 27.22.1N, 100.08.2E, 2830-3000 m, 17-20 Jun 2007, J. Hájek & H. Růžička lgt, 10 specimens (NMPC, CAR); Yunnan, Lijiang, 2600 m a.s.l, 30 Jun-2 Jul 1990, L. & M. Bocák lgt, 2 ♂♂ (NMPC, CAR); Yunnan, road Deguen-Yanjing, 30 km NW Deguen, 28.32N, 98.49E, ca 3300 m, 27 Jun 1997, Trýzna & Šafránek lgt, 12 specimens (NMPC, CAR); ibidem, 23 Jun 1997, M. Trýzna lgt, 3 ♂♂, 2 ♀♀ (NMPC); Yunnan, road Deguen-Yanjing,10 km SW Deguen, 3600 m, 21-22 Jun 1997, Trýzna & Šafránek lgt, 1 ♂, 1 ♀ (NMPC); Yunnan, Deguen env., 4200 m, 8 Jun 1993, R. Červenka lgt, 3 ♂♂, 4 ♀♀ (NMPC,CAR); Yunnan, Tanhua, Baicao Mts., 2000 m, 24-26 Jun 1996, Bolm lgt, 1 specimen (NMPC); Yunnan, env. Tengchong, 10-13 Jun 1993, E. Jendek O. Šauša lgt, 3 specimens (NHMW); Yunnan, Lugu Lake, Luo Shui, 27.45N, 100.45E, 8-9 Jun 1992, E. Jendek lgt, 2 ♂♂ (NMPC, CAR); Sichuan, Kangding, 30.04N, 101.58E, 2500-2900 m, 20-22 Jun 1998, J. Schneider lgt, 2 ♂♂, 1 ♀ (NHMW, NMPC, CAR); Sichuan, near Maoxian, 2600-3000 m, 29 Jun 2003, S. Murzin lgt, 1 ♀ (NMPC). **Myanmar**: "Pegu", 1 ♀, MHNP (Grouvelle 1908; Pegu is a

mountain area NE of Bago; see discussion above about *Meligethes melleus*).

Distribution. **EPA**: AP, BT**,** SD, NP, YUN, SCH UP. **ORR**: MY, AS.
M. binotatus has a relatively wide geographic range, at least from western Nepal westwards, to the Chinese Yunnan and W Sichuan eastwards, including Indian Darjeeling, Assam, Arunachal Pradesh, and NE Myanmar. The indication of *M. binotatus* for NE China recently published by Jelínek & Audisio (2007) was based on a single ♀ of *M. semenovi*, previously erroneously attributed to *M. binotatus*.

Chorotype. Eastern Himalayan.

Host-plants. Unknown. Probably associated with montane Rosaceae, may be *Rosa* or allied genera.

Habitat. Clearings at forest margins, scrub, stream sides; at least between 1500-3000 m.

Phenology. IV-**V-VI**-VII.

DNA data. Not available.

Taxonomic remarks. *Meligethes binotatus* is member of a complex of closely related species also including *M. semenovi*, *M. tryznai* sp. n., *M. transmissus*, *M. stenotarsus* sp. n., *M. elytralis* sp. n., and *M. marmota* sp. n. Within this complex, *M. binotatus* is probably more closely related to the geographically vicariant *M. semenovi*, now known to occur (see below) also in NE China, but previously known only based on the type series from Russian Far East, Ussuri Region (Kirejtshuk 1979b).

17. *Meligethes semenovi* Kirejtshuk, 1979

Meligethes semenovi Kirejtshuk, 1979b: 66

Type locality. E Russia, Ussuriysk (Kirejtshuk 1979b).

Holotype. ZIN (Kirejtshuk 1979b).

Diagnosis. *Meligethes semenovi* can be easily differentiated by the closely related and apparently geographically vicariant *M. binotatus* by the differently shaped male genitalia, the aedeagus exhibiting a shorter spatulate-truncated apex, by the slightly different, more distinctly and deeply emarginated apex of the ovipositor in females, and by the slightly obtusely pointed apex of pygidium in both sexes. Easily distinguished from the geographically vicariant *M. marmota* sp. n., which is characterized by body colouration entirely pale brown-yellowish, weaker and narrower posterior tibiae, and amply distinct male genitalia; easily distinguished from the geographically vicariant *M. tryznai* sp. n., which is characterized by entirely pale brown-yellowish elytra and less dark and distinct pronotal discal spots, by longer elytra, by more markedly impressed metaventrite in males, by distinct male genitalia, with much more parallel-sided tegmen, and by more widely truncate apex of the ovipositor.

Description
Size: Length 2.9-3.5 mm, width 1.5-1.9 mm.
Body color and pubescence: External habitus and colouration as in *M. binotatus* (Fig. 19 e); dorsal and ventral body surface blackish, pronotum always orange-yellowish, with pronotal disk blackish or piceous-brown, the discal darker area being usally organized in a single large spot; elytral sides typically same color as disc. Legs, antennae and pubescence as in *M. binotatus* described above.
Dorsal habitus: as in *M. binotatus* described above, but pygidium at apex very minutely and obtusely pointed in both sexes.
Ventral habitus, appendages: as in *M. binotatus* described above.
Male genitalia: shape of both tegmen and aedeagus as in *M. binotatus* (Fig. 19 e), characterized by rather parallel-sided aedeagus, ratio LEAE/WIAE = 2.40-2.45, gently and shortly narrowed distad, with widely spatulated-truncate aedeagal apex. Tegmen arcuately widened and widest at distal third, medial distal excision deep, widely V-shaped (ratio DTIN/LETE ≈ 0.25), its inner margins with marked projection; ratio LETE/WITE = 1.55-1.58. Main sclerites of internal sac (endophallus) nearly as in *M. binotatus* described above.
Female genitalia (ovipositor): distal apex as figured (Fig. 15 e), with marked and wide V-shaped emargination (ratio STLE/DSIA ≈ 0.80; ratio STLE/CGOW ≈ 0.06; ratio GONL/CGOW ≈ 1.1). Basal portions of gonocoxites moderately directed proximad, their laterally directed apices blunt. Ratio OVPL/GONL ≈ 3.00.
Variation: This species is moderately variable in body size, as above described.

Material examined. **Russia**: Far East, Ussuri Region, "Nikolaievskoie" [Nikolaevsk-na-Amure], 1873, Ivanov lgt, ♂ holotype (ZIN). **China**: Shaanxi, Taibai Mts. (= Taibashan), N of Haozhenzi, 1600 m, 30 Jun 1998, Murzin lgt, 2 ♂♂, 1 ♀ (NMPC, CAR); Sichuan, Kangding (= Kanding, = Dardo, = Garze), Ouda Mts., 2700 m, without further data, 1 ♀ (NMPC); Sichuan, Daxue Shan, W of Kangding, 30.03.13N, 101.57.11E, 2700-2800 m, 24 May 1997, M. Schülke lgt, 1 ♂, 1 ♀ (NMPC).

Distribution. **EPA**: FE, SCH, SHA.
M. semenovi has a rather wide geographic range, at least from Russian northern Ussuri Region northwards, to the Chinese Shaanxi and Sichuan Provinces southwards (Jelínek & Audisio 2007); it is probably present in most of the NE China.

Chorotype. Eastern Palearctic.

Host-plants. Unknown. Probably associated with Rosaceae, may be *Rosa* or allied genera.

Habitat. clearings at forest margins and stream sides; at least between 200-1600 m.

Phenology. Collected in **VI-VII**; probably active at least from May to August.

DNA data. Not available.

Taxonomic remarks. See discussion above about *Meligethes binotatus.*

18. *Meligethes transmissus* Kirejtshuk, 1988
Meligethes transmissus Kirejtshuk, 1988: 62

Type locality. China, Sichuan, "Da-Zeian-Li" (Kirejtshuk 1988); we have not been able to trace a certain corresponding Chinese toponym for this locality. It could may be refer to the village of Dashiyan, in southern Sichuan, close to the Yunnan's border.

Holotype: ZIN (Kirejtshuk 1988).

Diagnosis. *Meligethes transmissus* can be easily differentiated by the closely related and sympatric *M. binotatus* (and allied species) by the differently shaped male genitalia (its short aedeagus exhibiting a peculiarly bottle-neck-shaped and shortly spatulate-truncated apex), and by the markedly different, moderately pointed and distinctly truncate, not emarginated apex of the ovipositor in females. Easily distinguished from the geographically vicariant *M. marmota* sp. n., which is characterized by body colouration entirely pale brown-yellowish, weaker and narrower posterior tibiae, and amply distinct male and female genitalia.

Description
Size: Length 2.3-3.2 mm, width 1.3-1.8 mm.
Body color and pubescence: External habitus and colouration as figured (Fig. 19 f); dorsal and ventral body surface piceous-brown, pronotum variably coloured, orange-yellowish, with pronotal disk blackish or piceous-brown (the discal darker area being usually organized in a single large spot), or almost entirely piceous-brown, only lateral sides being orange-brown; elytral sides typically same color as disc. Legs, antennae and pubescence nearly as in *M. binotatus* described above.
Dorsal habitus: nearly as in *M. binotatus* described above, pygidium at apex obtusely rounded in both sexes (Fig. 19 f).
Ventral habitus and appendages: nearly as in *M. binotatus* described above.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 8 k-l), characterized by short, rather parallel-sided aedeagus, ratio LEAE/WIAE = 2.40-2.45, peculiarly bottle-neck-shaped pre-distally, and shortly spatulate-truncated at apex. Tegmen moderately widened and widest in the middle portion, medial distal excision deep, widely V-shaped (ratio DTIN/LETE ≈ 0.32), its inner margins with marked projection; ratio LETE/WITE = 1.30-1.35. Main sclerites of internal sac (endophallus) moderately sclerotized, fork-shaped in dorsal view, rod-shaped in lateral view, nearly as in *M. binotatus* described above.
Female genitalia (ovipositor): distal apex as figured (Fig. 15 g), minutely truncated (ratio STLE/DSIA ≈ 0.90; ratio STLE/CGOW ≈ 0.06; ratio GONL/CGOW ≈ 1.2. Basal portions of gonocoxites with bluntly pointed apices, slightly directed proximad. Ratio OVPL/GONL ≈ 2.80.
Variation: This species is highly variable in body colour, shape and size, as above described.

Material examined. **China**: Sichuan, 'Da-Zeian-Li' (Kirejtshuk 1988), 3 Jun 1893, N. Potanin lgt, 1 ♂ paratype (NMPC); Yunnan, Yunfeng Mts., near Gudong, 25.22.07N, 98.25.04E, 1825 m, 8 Jun 2007, J. Hájek & J. Růžička lgt 1 ♂ (NMPC); Yunnan, Jizu Mts., 25.58N, 100.21E, 2800 m, 30 May-3 Jun 1993, Bolm lgt, 1 ♂ (CAR); Yunnan, Jizu Mts., 25.58N, 100.21E, 2300 m, 18-20 Jun 1995, Bolm lgt, 1 ♀ (NMPC); Yunnan, near Mazhan, Volcano Geological Park, 25.132.05N, 98.30.00E, 1930 m, 6 Jun 2007, J. Hájek & J. Růžička lgt, 2 ♂♂, 5 ♀♀ (NMPC, CAR); Yunnan, Dongchuan, 26.07N, 103.14E, 1500-3200 m, 28 Jun-3 Jul 1994, V. Kubáň lgt, 1 ♂ (NMPC).

Distribution. **EPA**: SCH, YUN.
M. transmissus has a moderately wide geographic range, at least from Sichuan to Yunnan Provinces in central and S China (Jelínek & Audisio 2007); probably more widespread in SW China.

Chorotype. SW Chinese.

Host-plants. Unknown. Probably associated with Rosaceae, may be *Rosa* or allied genera.

Habitat. Clearings and shrubs at forest margins and stream sides; at least between 1800-2800 m.

Phenology. V-**VI-VII**. Probably active at least from May to August.

DNA data. Not available.

Taxonomic remarks: Despite the quite distinct male genitalia, and the nearly uniformly piceous-brown dorsal colouration of some specimens, this species is likely more closely related to *Meligethes binotatus* and allied species.

19. *Meligethes stenotarsus* sp. n.

Type locality. S China, N Yunnan, pass 12 Km SE of Deguen [= Deqin; = Deqen].

Diagnosis. *Meligethes stenotarsus* sp. n. can be easily differentiated by the closely related and nearly sympatric *M. binotatus* and from the geographically vicariant *M. semenovi* by the nearly truncated anterior margin of clypeus, the usually paler, yellowish-brown elytra, the latter being unusually long and narrow (ratio LELY/WELY = 1.08-1.10; ratio LPR1/LELY = 0.44-0.45), the slightly longer and narrower antennal club, exhibiting a CLLE/W10J ratio = 1.55-1.65, by the markedly distinct apex of its ovipositor, the paler and less distinct pronotal darker discal spot, the much narrower protarsal plates in males, the differently shaped tegmen, with narrower tips of parameres, the wider and distally more widely truncated median lobe of aedeagus, the peculiarly emarginated apex of the ovipositor in females, and by the obtusely rounded apex of pygidium in males. Easily differentiated by the closely related and again nearly sympatric *M. tryznai* sp. n. by the nearly truncated anterior margin of clypeus, the longer and narrower elytra, the slightly longer and narrower antennal club, by the markedly distinct apex of its ovipositor, the distinctly narrower protarsal plates in males, the differently shaped tegmen, with narrower tips of parameres, the wider and distally more widely truncated median lobe of aedeagus, the peculiarly emarginated apex of the ovipositor in females, and by the obtusely rounded apex of pygidium in males. Easily differentiated by the related and sympatric *M. nivalis* sp. n., by the usually paler elytra, and by the markedly different shape of male and female genitalia. Easily distinguished also from the geographically vicariant *M. marmota* sp. n., which is characterized by body colouration entirely pale brown-yellowish, weak and much narrower posterior tibiae, and by amply distinct male and female genitalia.

Description (♂ holotype)
Size: 3.3 mm length, 1.7 mm width.
Body color and pubescence: dorsal surface testaceous-reddish, but head, pronotal disc and scutellum darker, piceous-brown (as in Fig. 19 h), ventral surface testaceous, but head, prosternum, meso- and metaventrite darker, piceous-brown. Legs and antennae yellowish, with darker antennal club and antennomeres iv-viii infuscate. Dorsal pubescence rather short and fine, chiefly on pronotum and scutellum (but likely partly erased and brocken on the examined type specimen).
Dorsal habitus: body moderately convex, oblong and oval (as in Fig. 19 h). Ratio LPR1/LELY = 0.45; ratio WPR1/LPR1 = 1.77; ratio WPR2/LPR1 = 1.81; ratio WPR2/WPR1 = 1.02; ratio WPR1/WPRA = 1.59; ratio WPR1/WELY = 0.88; ratio WPR2/WELY = 0.90.
Anterior margin of clypeus almost transversely truncate; pronotum with distinct but blunt posterior angles, almost at right angle (as in Fig. 19 h), only very slightly projecting backwards. Pronotal punctures fine and dense, circular, slightly smaller in size than eye facets, separated by less than one diameter. Elytra peculiarly long (ratio LELY/WELY = 1.09; ratio LPR1/LELY = 0.45). Elytral punctures slightly finer but as dense as those of pronotum, oval, with hardly visible traces of transversal strigosity only around scutellum. Interspaces between pronotal punctures smooth and shining; interspaces between elytral punctures with faint traces of reticulation, and relatively duller. Pygidium with very dense and small punctures, its apex rounded.
Ventral habitus: Metaventrite markedly and widely impressed behind its anterior third, mediolongitudinal line impressed.
Appendages: antennae moderately long (as in Fig. 19 h), exhibiting relatively narrow club, ratio CLLE/W10J = 1.50-1.55 in males; ratio ANLE/HWEA = 1.05-1.07; ratio L03J/W03J = 2.65-2.75; ratio L03J/L02J = 1.17-1.18; ratio L03J/L04J =1.53-1.54. Protarsal plates in males relatively narrow, ratio WFTA/LFTA = 0.29-0.31; protibiae rather long, weak, with peculiarly minute and rather sharp teeth on most of their outer margins (as in Fig. 19 h), ratio LETI/WITI = 3.7-4.0.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 8 m-n), characterized by rather parallel-sided aedeagus, ratio LEAE/WIAE = 1.80-1.92, rather abruptly and longly narrowed distad, with widely spatulated-truncate aedeagal apex. Tegmen widest at distal three-fiths, arcuated at sides, apex of each parameron relatively narrow; medial distal excision deep, narrowly V-shaped (ratio DTIN/LETE ≈ 0.45), its inner margins with marked blunt projection; ratio LETE/WITE≈ 1.78. Main sclerites of internal sac (endophallus) shaped nearly as in *M. binotatus* described above; ratio LSIS/LEAE ≈ 0.36; ratio WSIS/LSIS ≈ 0.4.
Variation: Length 3.3-3.5 mm; width 1.7-1.8 mm.See also remarks on female genitalia below.
Female: in female metaventrite flattened, simple, only with very small, short, shallow and barely distinct, median impression. Pygidium with apex almost rounded. Protarsal plates only slightly narrower than in males (ratio WFTA/LFTA = 0.22-0.25); protibiae slightly narrower, ratio LETI/WITI = 3.4-3.5. Antennal length not significantly different in males than in females, but antennal club slightly narrower in females (Fig. 19 h; ratio CLLE/W10J = 1.60-1.65) than in males.
Female genitalia (ovipositor): distal portion as figured (Figs 15 i-j), distal apex of each gonocoxite narrowly arcuately emarginated, and distinctly divaricated each other, forming a combined minute and U-shaped, more or less deep, distal incision (ratio STLE/DSIA ≈ 0.50; ratio STLE/CGOW ≈ 0.07; ratio GONL/CGOW ≈ 1.4). Basal portion of gonocoxites directed outwards. The examined female from Chola Shan Pass listed below exhibits an ovi-

positor with slightly deeper U-shaped emargination (Fig. 15 j) than in the female paratype from Yunnan (Fig. 15 i). Ratio OVPL/GONL ≈ 2.10.

Type material. Holotype, ♂, **China**: N Yunnan, Deqen [=Deqing; = Deqin; = Deguen], Tibet Autonomous Prefecture, road Deqen-Yanjing, Deqen county, E side of Baima Shan, pass 12 Km SE Deqen, 28.23.86N, 98.59.04E, 4085 m, small creek valley with *Rhododendron* and *Salix*, 10 Jun 2005, M. Schülke lgt (NKMS). Paratypes: **China**: N Yunnan, Zhongdian county, Xue Shan Mts., 10 Km SW Zhongdian, 27.46.5N, 99.36.5E, 3700-3800 m, primary mixed forest, 20 Aug 2003, D. Wrase lgt, 1 ♂, 1 ♀ (NMPC, CAR). Other examined material probably to be referred to this same species: Xizang (= Tibet), Chola Shan Pass, road Yan Jing-Markam, 50 Km S of Markam, 4400 m, 29.16N, 98.38E, 24-27 Jun 1997, Trýzna & Šafránek lgt, 1 ♀ (NMPC).

Distribution. **EPA**: YUN, XIZ.
M. stenotarsus sp. n. is known only from three localities in southern China, in the mountain region near the NW Yunnan/SE Xizang (= Tibet) border.

Chorotype. SW Sinic.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a na-

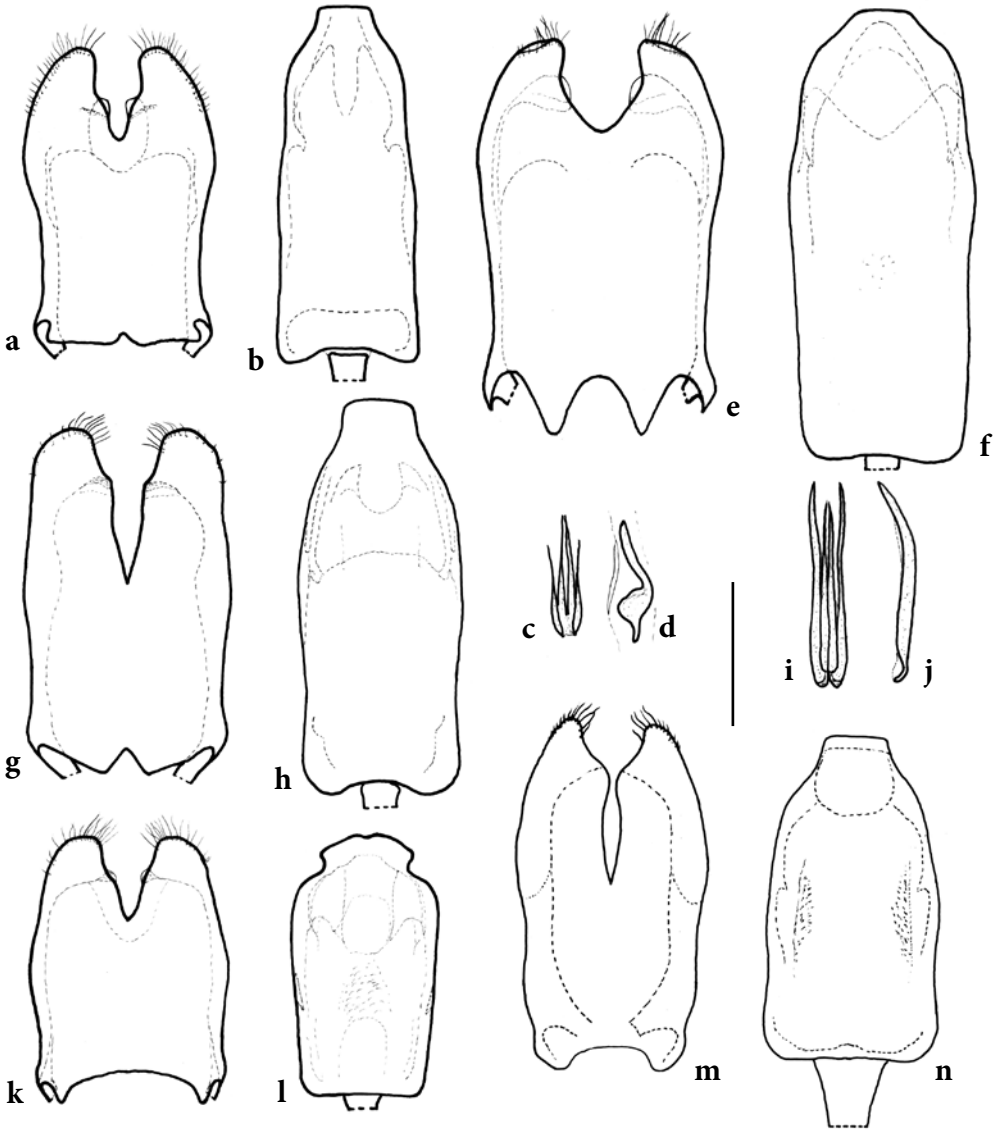

Fig. 8 − Male genitalia of *Meligethes* spp. (**a**, **e**, **g**, **k**, **m**, tegmen, dorsal view; **b**, **f**, **h**, **l**, **n**, median lobe of the aedeagus, dorsal view; **c**, **i**, main sclerites of the aedeagus, dorsal view; **d**, **j**, main sclerites of the aedeagus, lateral view): **a**, **b**, **c**, **d**, *M. binotatus* Grouvelle, 1894; **e**, **f**, *M. semenovi* Kirejtshuk, 1979; **g**, **h**, **i**, **j**, *M. tryznai* sp. n.; **k**, **l**, *M. transmissus* Kirejtshuk, 1988; **m**, **n**, *M. stenotarsus* sp. n. Scale bar: 0.2 mm.

tive Chinese high altitude *Rosa* sp., or to other Rosaceae, at the edges of indigenous mountain forests and surrounding subalpine clearings.

Habitat. High altitude clearings at forest margins; collected between 3800 and 4400 m.

Phenology. **VI-VIII**. Probably active in late Spring-Summer.

DNA data. Not available.

Name derivation. Named from the Greek *στενός* (= narrow), and *tarsus*, in order to emphasize its male tarsal plates, distinctly narrower than in all other known species of the *Meligethes binotatus* complex.

Taxonomic remarks. *Meligethes stenotarsus* sp. n. is member of a subcomplex of closely related species also including *M. binotatus, M. semenovi, M. elytralis* sp. n. and *M. tryznai* sp. n. Within this subcomplex, *M. stenotarsus* sp. n. is probably more closely related to the nearly sympatric *M. tryznai* sp. n., the latter otherwise chiefly exhibiting distinctly emarginated anterior edge of clypeus, shorter elytra, wider protarsal plates in males, longer and more parallel-sided tegmen, and smaller, distally nearly subtruncated ovipositor. Easily distinct from the sympatric *M. nivalis* sp. n. by the different body color, the longer elytra, and the quite different male and female genitalia.

20. *Meligethes tryznai* sp. n.

Type locality. S China, Yunnan, 30 km NW of Deguen [= Deqing; = Deqin; = Deqen].

Diagnosis. *Meligethes tryznai* sp. n. can be easily differentiated by the closely related and nearly sympatric *M. binotatus* by the usually paler elytra, yellowish-brown to pale brown, the paler and much less distinct pronotal darker discal spots, the slightly longer elytra, the more markedly impressed metaventrite in males, the differently shaped and much more parallel-sided tegmen, the more widely truncated and more shallowly emarginated apex of the ovipositor in females, with styli inserted peculiarly close to the apex of each gonocoxite, and by the slightly obtusely pointed apex of pygidium in females. Easily distinguished from the geographically vicariant *M. elytralis* sp. n. by the pronotum usually showing traces of elytral discal darker spots, by the female elytral apex simple, not lobed, and by the shallowly emarginated apex of the ovipositor (truncate in *elytralis* sp. n.). Easily distinguished from the geographically vicariant *M. semenovi* by the usually paler elytra, yellowish-brown to pale brown, the paler and much less distinct pronotal discal spot, the longer elytra, the differently shaped and much more parallel-sided tegmen, the more longly spatulated aedeagal apex, the much more shallowly emarginated apex of the ovipositor in females, with styli inserted peculiarly close to the apex of each gonocoxite, and by the obtusely rounded apex of pygidium in males. Easily differentiated by the related and nearly sympatric *M. nivalis* sp. n., by the usually paler elytra, the much less deeply impressed metaventrite in males, and by the markedly different shape of male and female genitalia. Easily distinguished also from the geographically vicariant *M. marmota* sp. n. from Nepal, which is characterized by body colouration entirely pale brown-yellowish, weak and much narrower posterior tibiae, and by the amply distinct male and female genitalia.

Description (♂ holotype)
Size: 3.2 mm length, 1.7 mm width.
Body color and pubescence: external habitus and colouration as figured (Fig. 19 g); dorsal and ventral surface yellowish-brown (Fig. 19 g), only discal pronotal area slightly darker, brownish, as head, metaventrite and metepisterna. Legs and antennae orange-yellowish, with slightly darker, infuscate antennal club. Pubescence with rather long, dense and prostrate golden to silvery-golden setae, partly obscuring the dorsal surface, denser and longer in pronotal posterior third, darker (brownish to castaneous) on pronotal darker discal area.
Dorsal habitus: body moderately convex, oblong and oval (Fig. 19 g). Ratio LPR1/LELY = 0.52; ratio WPR1/LPR1 = 1.78; ratio WPR2/LPR1 = 1.81; ratio WPR2/WPR1= 1.01; ratio LELY/WELY = 0.99; ratio WPR1/WPRA = 1.63; ratio WPR1/WELY = 0.95; ratio WPR2/WELY = 0.96. Rather distinctly arcuately emarginated anterior margin of clypeus, pronotum with distinct but blunt posterior angles (Fig. 19 g), distinctly projecting backwards. Elytral punctures slightly finer and more dense than those of pronotum, slightly smaller in size to eye facets, oval, separated by less than one diameter, with fine and barely distinct transversal strigosity, more distinct around scutellum. Interspaces between pronotal punctures moderately shining; interspaces between elytral punctures more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex obtusely rounded (Fig. 19 g).
Ventral habitus: Male metaventrite exhibiting a relatively deep mediolongitudinal impression, markedly widened behind its midlength, besides it moderately convex, densely punctate, shining, at sides duller, without tufts of erect hairs.
Appendages: antennae moderately long (Fig. 19 g), exhibiting relatively narrow club, ratio ANLE/HWEA = 1.06; ratio CLLE/W10J = 1.43; ratio L03J/W03J = 2.90; ratio L03J/L02J = 1.44; ratio L03J/L04J = 1.62. Protarsal plates with ratio WFTA/LFTA = 0.38; protibiae with minute but sharp teeth on distal third of their outer margins (Fig. 19 g), ratio LETI/WITI = 3.3-3.4. Posterior tibiae relatively wide, their inner margin distinctly arcuated (Fig. 19 g), ratio WPTI/LPTI = 0.32.

Male genitalia: shape of both tegmen and aedeagus as figured (Figs 8 g-h), characterized by elongated, rather parallel-sided aedeagus, ratio LEAE/WIAE = 2.43, rather abruptly and longly narrowed distad, with widely spatulated-truncate aedeagal apex. Tegmen widest at distal third, but rather parallel-sided, its medial distal excision deep, narrowly V-shaped (ratio DTIN/LETE ≈ 0.45), its inner margins with marked projection; ratio LETE/WITE = 1.70. Main sclerites of internal sac (endophallus) markedly longer than in *M. binotatus* described above (Figs 8 i-j).
Variation: The male paratypes agree with holotype in most characters, including shape and body colouration. One ♂ paratype has darker, uniformly pale castaneous elytra. Sizes in both sexes: 2.9-3.3 mm length, 1.5-1.7 mm width. Male protarsal plates with ratio WFTA/LFTA = 0.37-0.40.
Female: in female metaventrite flattened, simple, only with very small, short, shallow and barely distinct, median impression. Pygidium with apex narrowly obtusangulate, minutely projected backwards. Protarsal plates narrower than in males (ratio WFTA/LFTA = 0.22-0.25); protibiae slightly narrower, ratio LETI/WITI = 3.4-3.5. Antennal length not significantly different in males than in females.
Female genitalia (ovipositor): distal portion as figured (Fig. 15 f), distal apex of each gonocoxite subtruncate, forming a combined very widely V-shaped, peculiarly shallow distal emargination, styli placed very close to apex (ratio STLE/DSIA ≈ 0.85; ratio STLE/CGOW ≈ 0.06; ratio GONL/CGOW ≈ 1.1). Basal portion of gonocoxites directed outwards. Ratio OVPL/GONL ≈ 2.50.

Type material. Holotype, ♂, **China**: border NW Yunnan/SE Xizang, road Deguen-Yan Jing, 30 Km NW Deguen [= Deqing; = Deqin; = Deqen], 28.32N, 98.49E, 3300 m, 23 Jun 1997, Trýzna & Šafránek lgt (NMPC). Paratypes: same data as holotype, 3 ♂♂, 2 ♀♀ (NMPC, CAR). Border NW Yunnan/SE Xizang, above Deqen, 4209 m, 8 May 1993, R. Červenka lgt, 4 ♂♂, 2 ♀♀ (NMPC, CAR).

Distribution. **EPA**: YUN (XIZ).
M. tryznai sp. n. is known only from two close localitiein southern China, in the mountain region near the NW Yunnan/SE Xizang (= Tibet) border.

Chorotype. SW Sinic.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native Chinese high altitude *Rosa* sp., or to other Rosaceae.

Habitat. high altitude clearings at forest margins, scrub, stream sides; collected between 3300 and 4200 m.

Phenology. **V-VI**. Probably active in Spring/Summer, between May and July.

DNA data. Not available.

Name derivation. Named for our Czech colleague M.T. Trýzna, who collected this species and other interesting Nitidulid material during a series of field expeditions to China.

Taxonomic remarks. *Meligethes tryznai* sp. n. is member of a subcomplex of closely related species also including *M. binotatus, M. semenovi, M. elytralis* sp. n., *M. stenotarsus* sp. n., and *M. nivalis* sp. n. Within this subcomplex, *M. tryznai* sp. n. is probably more closely related to the allopatric *M. elytralis* sp. n. from Sichuan, to the parapatric *M. binotatus,* and to the sympatric *M. stenotarsus* sp. n. It could be interesting to establish if the three closely related species sympatric in NW Yunnan/SE Xizang have different larval host-plants.

21. *Meligethes elytralis* sp. n.

Type locality. China, Sichuan, Xiangceng.

Diagnosis. *Meligethes elytralis* sp. n. can be easily differentiated by the closely related and allopatric *M. tryznai* sp. n. from Yunnan by the more uniformly coloured orange elytra and pronotum, by the female elytra characterized by a distinctly prolonged distal lobe, and by the markedly distinct shape of the ovipositor, transversely truncate distad, and with characteristically shaped basal portion of the gonocoxites. Easily differentiated by the related and again allopatric *M. nivalis* sp. n., by the usually paler elytra, and by the markedly different shape of female genitalia. Easily distinguished also from the geographically vicariant *M. marmota* sp. n. from Nepal, which is characterized by weaker and much narrower posterior tibiae, and by amply distinct female genitalia.

Description (♀ holotype)
Size: 3.0 mm length, 1.6 mm width.
Body color and pubescence: external habitus and colouration nearly as in the related *M. tryznai* sp. n. (ig. 19 g); dorsal and ventral surface uniformly orange, except for two hardly distinct and slighly infuscate couples of discal pronotal spots; head blackish brown with orange frons. Legs and antennae orange-yellowish, with slightly darker, vaguely infuscate antennal club. Pubescence with rather long, dense and prostrate golden setae, uniformly coloured, partly obscuring the dorsal surface in pronotal posterior third, where are denser and longer.
Dorsal and ventral habitus: not significantly differing from that of a ♀ of *M. tryznai* sp. n. described above, except for the peculiar shape of the elytral apex, distinctly prolonged in an obtuse lobe (Fig. 2 i).
Appendages: not significantly differing from that of a ♀ of *M. tryznai* sp. n. described above.
Male genitalia: unknown.
Female genitalia (ovipositor): distal portion as figured

(Fig. 15 n), distal apex of each gonocoxite peculiarly transversely truncate; styli placed close to apex (ratio STLE/DSIA ≈ 0.80); ratio STLE/CGOW ≈ 0.05; ratio GONL/CGOW ≈ 1.2). Basal portion of gonocoxites markedly sinuate, and directed outwards. Ratio OVPL/GONL ≈ 2.60.

Type material. Holotype, ♀, **China**: Sichuan, Xiangceng, 28.56N, 99.48E, 3005 m, 29 Jun 2010, P. Kabátek lgt (NMPC).

Distribution: EPA: **SCH.**
M. elytralis sp. n. is only known from the type locality.

Chorotype. SW Sinic.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native high altitude *Rosa* sp., or to other Rosaceae.

Habitat. High altitude clearings at forest margins; collected at ca. 3000 m.

Phenology. **VI**. Probably active in Spring-Summer, between May and July.

DNA data. Not available.

Name derivation. Named for its characteristically lobed distal elytral apex in female (Fig. 2 i).

Taxonomic remarks. *Meligethes elytralis* sp. n. is member of a subcomplex of closely related species also including *M. tryznai* sp. n., *M. binotatus, M. semenovi, M. stenotarsus* sp. n., and *M. nivalis* sp. n. Within this subcomplex, *M. elytralis* sp. n. is more closely related to the allopatric *M. tryznai* sp. n. and *M. stenotarsus* sp. n.

22. *Meligethes auricomus* Rebmann, 1956

Meligethes auricomus Rebmann, 1956b: 131

Type locality. China, Fujian (= Fukien), "Kuatun" (Rebmann 1956b) [Wuyi Shan (Mts.), some 100 Km NW of Sanming; see also Thomas (1898) for details on correct localization of this ancient toponym, and the discussion below on the examined type material].

Holotype. According to Rebmann (1956b) in ZFMK; in fact, it is now preserved in SMF.

Diagnosis. *Meligethes auricomus* can be easily differentiated by other members of the *M. binotatus-auripilis* complex by the short and wide body shape, the differently shaped male genitalia (the aedeagus being relatively short, with peculiarly shaped arcuately-spatulate apex, the tegmen exhibiting peculiarly narrow paramera with deep and widely V-shaped distal excision), the uniformly yellow to orange legs and antennae, with paler pronotal sides, the short antennae, and by its peculiarly wide pro-, meso- and metatibiae.

Description
Size: Length 3.1-3.3 mm, width 1.7-1.8 mm.
Body color and pubescence: External habitus and colouration as figured (Fig. 20 f); dorsal and ventral body surface blackish to pale castaneous (paler in the examined holotype, which is probably a teneral specimen), excluding pronotum, which is orange-yellowish, with darker (brown to blackish) discal spots; elytral sides typically same color as disc, pronotal sides paler, brown to reddish. Legs and antennae entirely orange-yellowish, with slightly darker antennal club. Pubescence with long and recumbent setae, silvery-golden, those on pronotum (chiefly on its posterior third) and scutellum longer, partially obscuring the dorsal surface, shorter and finer on elytra.
Dorsal habitus: body rather convex, wide and oval (Fig. 20 f). Ratio LPR1/LELY = 0.66-0.68; ratio WPR1/LPR1 = 1.78-1.79; ratio WPR2/LPR1 = 1.81-1.82; ratio WPR2/WPR1 = 1.01-1.02; ratio LELY/WELY = 0.79-0.82; ratio WPR1/WPRA = 1.78-1.79; ratio WPR1/WELY = 0.96-0.97; ratio WPR2/WELY = 0.97-0.98.
Anterior margin of clypeus slightly arcuately emarginated; pronotum with distinct posterior angles (Fig. 20 f), distinctly projecting backwards. Elytral punctures markedly finer and more dense than those of pronotum, much smaller in size than eye facets, oval, separated by less than one diameter, with fine transversal strigosity, more marked around scutellum. Interspaces between pronotal punctures more or less shining; interspaces between elytral punctures more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex obtusangulate in females, markedly pointed in males (Fig. 20 f).
Ventral habitus: Male metaventrite exhibiting a distinct but shallow mediolongitudinal impression, widened behind its midlength, without tufts of erect hairs. In females metaventrite flattened, the mediolongitudinal line not impressed.
Appendages: antennae (Fig. 20 f) rather short, exhibiting ratio ANLE/HWEA= 0.88-0.90, ratio CLLE/W10J = 1.50-1.52; ratio L03J/W03J = 3.00-3.10; ratio L03J/L02J = 1.60-1.65; ratio L03J/L04J =1.60-1.65. Male protarsal plates (Fig. 20 f) markedly wider than in females, ratio WFTA/LFTA ≈ 0.40 (ratio WFTA/LFTA ≈ 0.33 in females); protibiae relatively short and wide, with peculiarly short and minute teeth on apical third of their outer margins (Fig. 20 f), exhibiting a ratio LETI/WITI ≈ 3.3 in males, ≈ 3.6 in females. Posterior tibiae in both sexes peculiarly wide, their inner margin markedly arcuated (Fig. 20 f), ratio WPTI/LPTI = 0.34-0.36.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 10 h-i), characterized by short and parallel-sid-

ed aedeagus, with gently narrowed and arcuately spatulate apex, ratio LEAE/WIAE = 1.89-1.92. Tegmen moderately long, rather parallel-sided, widest at distal third, with peculiarly narrow and obtusely pointed paramera, and medial distal excision deep and peculiarly widely V-shaped (ratio DTIN/LETE ≈ 0.34), its inner margins without any projection; ratio LETE/WITE = 1.57-1.58. Main sclerites of internal sac (endophallus) not available in the dissected type material.
Female genitalia (ovipositor): distal apex as figured (Fig. 15 h), narrowly arcuately truncate, styli inserted very close to the apex (ratio STLE/DSIA ≈ 1.10; ratio STLE/CGOW ≈ 0.08; ratio GONL/CGOW ≈ 1.4). Basal portions of gonocoxites moderately directed distad, their laterally directed apices bluntly pointed. Ratio OVPL/GONL ≈ 2.60.
Variation: This species is moderately variable in body size and body colouration, as above described. The holotype is probably a teneral specimen, exhibiting obviously paler body colouration.

Material examined. **China**: Fujian (= Fukien) Province, [Wuyi Shan (Mts.)], Kuatun, 27.40N, 117.40E, 2300 m, 31 May 1938, J. Klapperich lgt, ♂ holotype (SMF); same data as holotype, but 1 Apr 1938, 1 ♀ listed among type material (Rebmann 1956b), but apparently not formally marked as paratype (SMF). The original labels of both examined specimens report an altitude of 2300 m, which is hardly compatible with the indicated geographic coordinates of the area, placed at low and intermediate altitudes, little more than 100 Km NW of Sanming, not far from the Fujian/Jiangxi border. The highest mountains in the NW Fujian are the Wuyi Mts. (= Wuyi Tshan), but the Wuyi Tshan top (also known as Mount Huanggang), only reaches 2158 m, and it is placed markedly northwards and eastwards of the indicated type locality, along the Fujian/Jiangxi border, nearly 27.52N, 117.47E. The true type locality should probably refer to this mountain massif. Alternativey, the coordinates reported in the original description of the species could be true, but the altitude was erroneously reported in meters, instead of feets. See also Thompson (1898).

Distribution. **EPA**: FUJ, JIX, (SCH ?).
M. auricomus has a probably limited geographic range in SE China, known with certainty only from areas bordering the NW Fujian and the E Jiangxi. Rebmann (1956b) also listed a specimen of *M. auricomus* from Sichuan Province, 'Tatsienlu' [Kiulung Mts., S of Tatsienlu; this town is now named Kangding, but it is known also as Garze or Dardo], Mader lgt, but we have not found this specimen both in MAKB and SMF collections; as above and below reported, we otherwise examined some specimens of *M. argentithorax* sp. n. and of *M. binotatus* collected in this same locality in Sichuan. The actual distribution of *M. auricomus* also in Sichuan is then to be considered very doubtful, and to be confirmed.

Chorotype. SE Chinese.

Host-plants. Unknown. Probably associated with Rosaceae, may be *Rosa* or allied genera.

Habitat. Unknown; probably collected at intermediate-high altitudes, indicated as 2300 m on the original labels of the examined typical material listed above (but see the discussion above on the type material).

Phenology. **IV**-**V**-VI.

DNA data. Not available.

Taxonomic remarks. *Meligethes auricomus* is distinguished from *M. argentithorax* sp. n. and allied species mainly based on its shorter and wider elytra, peculiarly short and wide meso- and metatibiae, short antennae, and markedly different male and female genitalia. The shape of its male genitalia, relatively similar to those of *M. clinei* sp. n. described below, is probably due a parallelism, considering that the latter species is almost completely different in most external morphological and chromatic characters.

23. *Meligethes nivalis* sp. n.

Type locality. China, SE Xizang (= Tibet), Chola Shan Pass.

Diagnosis. *Meligethes nivalis* sp. n. can be easily differentiated by the moderately related and sympatric *M. binotatus* and by the other Chinese species of the complex (except *M. stenotarsus* sp. n., which otherwise exhibits nearly truncated anterior edge of clypeus), by the markedly less widened front tarsi in males, the more markedly impressed metaventrite in males, and by the differently shaped male genitalia (aedeagus obtusely pointed distad, and exhibiting a short series of relatively long and distinct sensillum-like setae along the outer edge of its distal third). Distinguished also from the syntopic *M. stenotarsus* sp. n., which exhibits a more uniform yellowish-orange dorsal coloration (only with moderately darker head, pronotal discal portion, and scutellum), a slightly narrower antennal club, and unusually longer and narrower elytra. Easily distinguished also from the geographically parapatric *M. tryznai* sp. n., which is characterized by usually paler elytra, yellowish-brown to pale brown, and by amply distinct male genitalia, and distinguished by *M. elytralis* sp. n. from Sichuan by the simple (not lobed) female elytral apex and the different shape of the distal portion of the ovipositor. *Meligethes nivalis* sp. n. can be easily differentiated also by the less closely related but in some cases vaguely similar *M. vulpes*, *M. melleus* and *M. lutra*, by the narrower antennal club, the markedly longer antennae and elytra, the quite

distinct male genitalia, and the unique, peculiarly shaped distal portion of the ovipositor.

Description (♂ holotype)
Size: 3.5 mm length, 1.8 mm width.
Body color and pubescence: external habitus and colouration as figured (Fig. 20 e); dorsal and ventral surface piceous-brown to blackish, but pronotum orange-reddish, disc darker, piceous-brown (Fig. 20 e). Legs and antennae uniformly yellowish, with slightly darker antennal club. Pubescence with long, dense and prostrate golden setae, partly obscuring the pronotal and scutellar surface, chiefly in its posterior third, markedly finer and shorter on elytra; setae darker, brown, on pronotal discal darker area.
Dorsal habitus: body moderately convex, oblong and oval (Fig. 20 e). Ratio LPR1/LELY = 0.56; ratio WPR1/LPR1 = 1.76; ratio WPR2/LPR1 = 1.80; ratio WPR2/WPR1 = 1.02; ratio LELY/WELY = 0.93; ratio WPR1/WPRA = 1.57; ratio WPR1/WELY = 0.92; ratio WPR2/WELY = 0.94.
Slightly arcuately emarginated anterior margin of clypeus, pronotum with distinct but blunt posterior angles (Fig. 20 e), distinctly projecting backwards. Elytral punctures slightly finer and nearly as dense as those of pronotum, slightly smaller in size to eye facets, oval, separated by less than one diameter, with distinct traces of fine transversal strigosity, chiefly around scutellum. Interspaces between pronotal punctures rather shining; interspaces between elytral punctures much more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex obtusangulate (Fig. 20 e).
Ventral habitus: Male metaventrite exhibiting in its posterior two thirds a relatively deep mediolongitudinal impression, slightly widened behind its midlength, besides it moderately convex, densely punctate, shining, at sides duller, without tufts of erect hairs.
Appendages: antennae rather long (Fig. 20 e), exhibiting relatively narrow club, ratio ANLE/HWEA = 1.09; ratio CLLE/W10J = 1.50; ratio L03J/W03J = 3.00; ratio L03J/L02J = 1.60; ratio L03J/L04J = 1.45. Protarsal plates scarcely widened, with ratio WFTA/LFTA = 0.34; protibiae with minute teeth on distal third of their outer margins (Fig. 20 e), ratio LETI/WITI = 3.5. Posterior tibiae relatively wide, their inner margin arcuately convex (Fig. 20 e), ratio WPTI/LPTI = 0.32.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 10 a-b), characterized by quite long, parallel-sided aedeagus, ratio LEAE/WIAE = 2.75, rather abruptly narrowed and minutely pointed distad, exhibiting a short series of relatively long and distinct sensillum-like setae along the outer edge of its distal third, and oriented proximad. Tegmen long, widest at distal third, its medial distal excision rather deep, V-shaped (ratio DTIN/LETE ≈ 0.30), its inner margins with marked projection; ratio LETE/WITE = 1.76. Main sclerites of internal sac (endophallus) rather short (Fig. 10 c).
Variation: Sizes in males: 3.1-3.5 mm length, 1.7-1.8 mm width. The male paratypes agree with holotype in most characters, but one paratype exhibits pronotum darker, pale brown with darker discal area, and elytra longer (ratio LELY/WELY = 0.96; ratio LPR1/LELY = 0.51). Ratio LPR1/LELY = 0.51-0.58; ratio WPR1/LPR1 = 1.75-1.76; ratio WPR2/LPR1 = 1.79-1.80; ratio WPR2/WPR1 = 1.02; ratio LELY/WELY = 0.92-0.96; ratio WPR1/WPRA = 1.60-1.73; ratio WPR1/WELY= 0.92-0.93; ratio WPR2/WELY= 0.94-0.95. Ratio ANLE/HWEA= 1.03-1.09; ratio CLLE/W10J= 1.48-1.50; ratio L03J/W03J= 2.95-3.00; ratio L03J/L02J= 1.40-1.60; ratio L03J/L04J = 1.40-1.45. Protarsal plates with ratio WFTA/LFTA = 0.33-0.35; protibiae with minute teeth on distal third of their outer margins, ratio LETI/WITI = 3.3-3.6. Posterior tibiae relatively wide, their inner margin arcuately convex (Fig. 20 e), ratio WPTI/LPTI = 0.31-0.32. Ratio LEAE/WIAE = 2.66-2.75; ratio DTIN/LETE ≈ 0.26-0.30; ratio LETE/WITE = 1.66-1.76. The single ♂ from Chongqing, not included in type series, exhibits external shape almost identical to the holotype, but slightly more angulate apex of pygidium, and male genitalia with aedeagal apex slightly more rounded, with less distinct distal projection.
Female: in female metaventrite flattened, simple. Pygidium with obtusely rounded apex. Protarsal plates narrower than in males (ratio WFTA/LFTA = 0.25); protibiae slightly narrower, ratio LETI/WITI= 3.4. Antennal length not significantly different in males than in females.
Female genitalia (ovipositor): distal portion as figured (Fig. 14 k), distal apex of each gonocoxite rather pointed, forming a combined widely V-shaped and deep distal emargination, styli placed relatively far to apex (ratio STLE/DSIA ≈ 0.45; ratio STLE/CGOW ≈ 0.07; ratio GONL/CGOW ≈ 1.3). Basal portion of gonocoxites directed outwards. Ratio OVPL/GONL ≈ 2.20.
Type material. Holotype, ♂, **China**: Xizang (= Tibet), 20 Km N of Yan Jing [=Yanjing], 3000/3500 m, 23 Jul-08 Aug 1998, O.Šafránek & M.T. Trýzna lgt (NMPC). Paratypes: same data as holotype, 2 ♂♂ (NMPC, CAR); **China**: Xizang (= Tibet), near Yan Jing, 2600 m, 28.51N, 98.41E, 24 Jun 1997, M.T. Trýzna & O. Šafránek lgt, 2 ♀♀ (NMPC, CAR); Xizang (= Tibet), road Yan Jing-Markam, 50 Km S of Markam, Chola Shan Pass, 4400 m, 29.16N, 98.38E, 24-27 Jun 1997, M.T. Trýzna & O. Šafránek lgt, 1 ♂ (NMPC); border NW Yunnan/SE Xizang, road Deqen-Yan Jing, 10 Km SW Deqen, 3600 m, 21-22 Jun 1997, M.T. Trýzna & O. Šafránek lgt, 1 ♂ (NMPC); Yunnan, Deguen [= Diqing, = Deqen] Tibet Autonomous Prefecture, Meili Xue Shan, E side, 14 Km W of Deguen, 2580 m, 28.27.47N, 98.46.35E, 11 Jun 2005, M. Schülke lgt, 1 ♂ (NKMS). Additional material, not included in the type series: 'Szechwan, Chung King', without further data (probably now Chongqing, in the homonymous province bordering the present-day eastern Sichuan (= Szechwan), 1 ♂ (NMPC).

Distribution. **EPA**: XIZ, YUN, CHQ.
M. nivalis sp. n. is only known from the above cited localities in SE Xizang and NW Yunnan, and from Chongqing.

Chorotype. Central-SW Sinic.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native Chinese high altitude *Rosa* sp. or to other Rosaceae.

Habitat. High altitude clearings and meadows, collected between 2600 and 4400 m in SE Xizang and NW Yunnan; probably at lower altitudes in Chongqing.

Phenology. **VI-VIII**. Probably active at least between early Jun and late August.

DNA data. Not available.

Name derivation. Named in order to emphasize its relationships with high altitude mountain areas usually covered by snow (from the Latin *nivalis* = associated with snow).

Taxonomic remarks. *Meligethes nivalis* sp. n. occupies a rather isolated position within the *M. auripilis-binotatus* complex, due to a combination of only moderately enlarged male protarsal plates, and peculiarly shaped male genitalia. This species was collected in the same localities in company of both *M. tryznai* sp. n., and *M. stenotarsus* sp. n.

24. *Meligethes marmota* sp. n.

Type locality. Nepal, Karnali Province, between Chhurchi-Lagna and Pina.

Diagnosis. *Meligethes marmota* sp. n. can be easily differentiated by the related and sympatric *M. binotatus* and by the allopatric *M. semenovi* by the much paler elytra, yellowish-brown to pale brown as pronotum, with slightly darker head, the much weaker and narrower posterior tibiae in both sexes, the even more markedly developed sexual dimorphism in width of front tibiae and front tarsi, the longer elytra, the more markedly impressed metaventrite in males, and by the differently shaped male genitalia. Easily distinguished also from the geographically vicariant *M. tryznai* sp. n., and *M. stenotarsus* sp. n., which are characterized by much wider posterior tibiae, and by amply distinct male genitalia, the latter species also exhibiting an almost truncated anterior margin of clypeus.

Description (♂ holotype)
Size: 3.3 mm length, 1.8 mm width.
Body color and pubescence: external habitus and colouration as figured (Fig. 19 i); dorsal and ventral surface yellowish-brown (Fig. 19 i), only head slightly darker, brownish, as metaventrite and metepisterna. Legs and antennae entirely orange-yellowish, including antennal club. Pubescence with rather long, dense and prostrate golden to silvery-golden setae, partly obscuring the dorsal surface, denser and longer in pronotal posterior third, and uniformly coloured.
Dorsal habitus: body moderately convex, oblong and oval (Fig. 19 i). Ratio LPR1/LELY = 0.56; ratio WPR1/LPR1 = 1.74; ratio WPR2/LPR1 = 1.78; ratio WPR2/WPR1 = 1.02; ratio LELY/WELY = 0.92; ratio WPR1/WPRA = 1.53; ratio WPR1/WELY = 0.90; ratio WPR2/WELY = 0.92. Rather distinctly arcuately emarginated anterior margin of clypeus, pronotum with distinct but blunt posterior angles (Fig. 19 i), distinctly projecting backwards. Elytral punctures slightly finer and nearly as dense as those of pronotum, slightly smaller in size to eye facets, oval, separated by less than one diameter, with feeble traces of fine transversal strigosity only around scutellum. Interspaces between pronotal punctures rather shining; interspaces between elytral punctures much more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex obtusely rounded (Fig. 19 i).
Ventral habitus: Male metaventrite exhibiting a markedly deep mediolongitudinal impression, widened behind its anterior two thirds, besides it moderately convex, densely punctate, shining, without tufts of erect hairs.
Appendages: antennae rather long (Fig. 19 i), exhibiting relatively narrow club, ratio ANLE/HWEA = 1.12; ratio CLLE/W10J = 1.53; ratio L03J/W03J = 3.15; ratio L03J/L02J = 1.42; ratio L03J/L04J = 1.45. Protarsal plates with ratio WFTA/LFTA = 0.40; protibiae with minute but sharp teeth on distal third of their outer margins (Fig. 19 i), ratio LETI/WITI = 3.3. Posterior tibiae weak and narrow, their inner margin almost straight (Fig. 19 i), ratio WPTI/LPTI = 0.25.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 9 l-m), characterized by rather parallel-sided aedeagus in its proximal two-thirds, ratio LEAE/WIAE = 2.15, rather abruptly and longly narrowed distad, with rather narrowly spatulated-truncate aedeagal apex. Tegmen widest at distal third, but rather parallel-sided in proximal half, its medial distal excision deep, narrowly V-shaped (ratio DTIN/LETE ≈ 0.32), its inner margins with marked projection; ratio LETE/WITE = 1.45. Main sclerites of internal sac (endophallus) rod-shaped, long and thiny.
Variation: The ♂ paratype agrees with holotype in most characters, including shape and body colouration. Sizes in both sexes: 3.0-3.3 mm length, 1.6-1.8 mm width. Male protarsal plates with ratio WFTA/LFTA = 0.40-0.42.
Female: in female metaventrite flattened, simple, only with very small, short, shallow and barely distinct, median impression. Pygidium with rounded apex, as in males. Protarsal plates much narrower than in males (ratio WFTA/LFTA = 0.27); protibiae markedly narrower, ratio LETI/WITI = 4.3.

Female genitalia (ovipositor): distal portion as figured (Fig. 15 k), distal apex of each gonocoxite subtruncate, forming a combined widely V-shaped, shallow distal emargination (ratio STLE/DSIA ≈ 0.90; ratio STLE/CGOW ≈ 0.09; ratio GONL/CGOW ≈ 1.7). Basal portion of gonocoxites bluntly pointed and slightly directed proximad. Ratio OVPL/GONL ≈ 2.80.

Type material: Holotype, ♂, **Nepal**: [Karnali Province, near Rara National Park], between Chhurchi-Lagna, 3350 m, and Pina, 2370 m, W. Wittmer lgt, 29 May 1977 (MHNG). Paratypes: **Nepal**: Karnali Province, Jumla District, trail E of Churta, 3000-3500 m, 4 Jun 2007, M. Hartmann lgt, 1 ♂, 1 ♀ (NMPC, CAR).

Distribution. **EPA**: NP.
M. marmota sp. n. is known only from two close localities in NW Nepal, Karnali Province.

Chorotype. Nepalese.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native high altitude *Rosa* sp. or to other Rosaceae.

Habitat. High altitude clearings at forest margins; collected between 3000 and 3500 m.

Phenology. **V-VI**. Probably active in Spring-Summer.

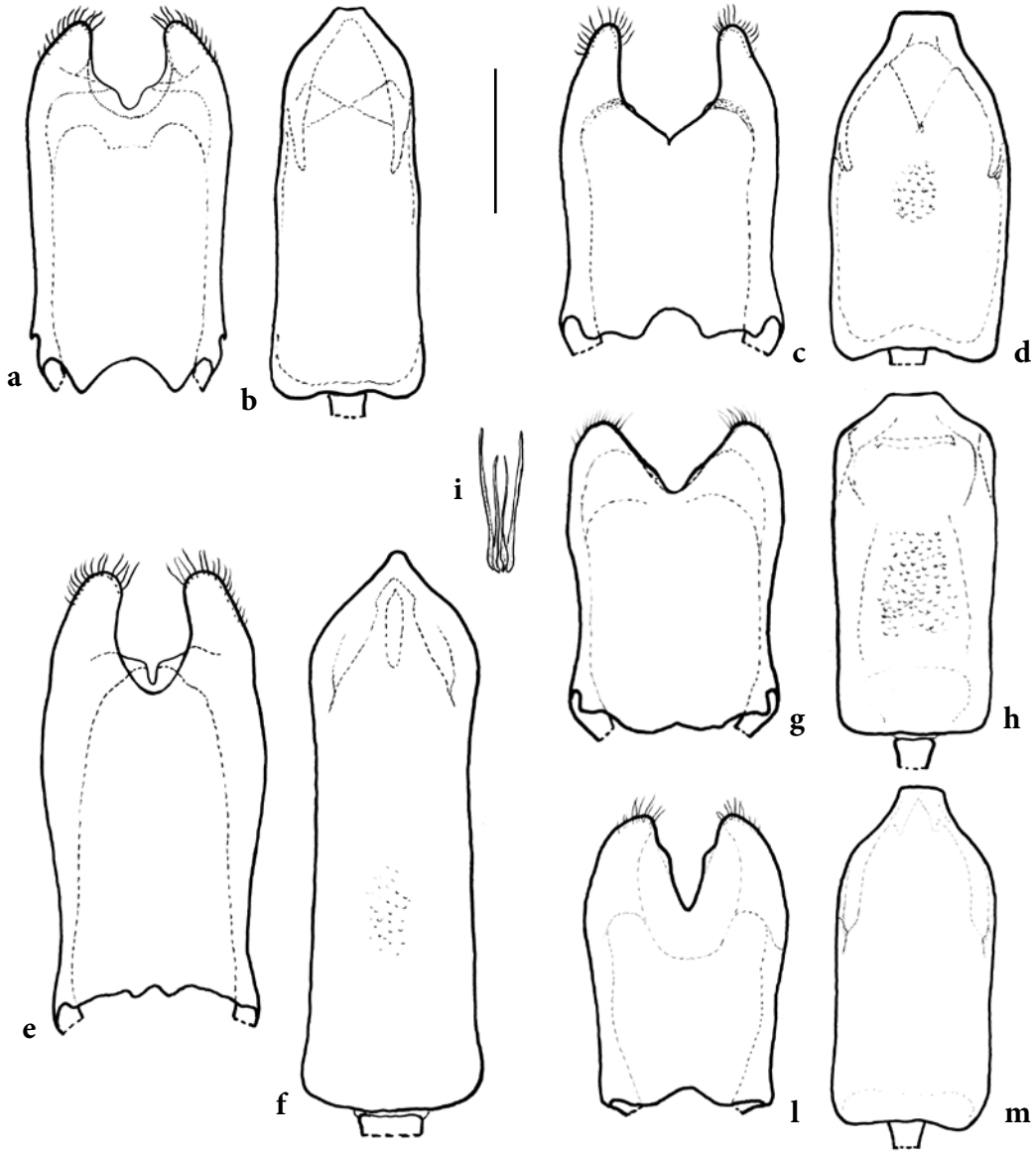

Fig. 9 − Male genitalia of *Meligethes* spp. (**a**, **c**, **e**, **g**, **l**, tegmen, dorsal view; **b**, **d**, **f**, **h**, **m**, median lobe of the aedeagus, dorsal view; **i**, main sclerites of the aedeagus, dorsal view): **a**, **b**, *M. argentithorax* sp. n.; **c**, **d**, *M. clinei* sp. n.; **e**, **f**, *M. auripilis* Reitter, 1889; **g**, **h**, **i,** *M. aurifer* sp. n.; **l, m**, *M. marmota* sp. n. Scale bar: 0.2 mm.

DNA data. Not available.

Name derivation. named for its association with high altitude montane areas, and for its pale reddish body colouration, recalling members of the high-altitude ground squirrels genus *Marmota* L. [marmots].

Taxonomic remarks. *Meligethes marmota* sp. n. occupies a rather isolated position within the *M. auripilis-binotatus* complex, due to a combination of weak and narrow posterior tibiae, peculiarly enlarged male protarsal plates, and uniform orange-reddish colouration, that strongly resembles members of the otherwise not distantly related *Meligethes vulpes* species-group, treated above. Despite its markedly different external aspect and colouration, it is probably more closely related to *M. tryznai* sp. n., *M. elytralis* sp. n., *M. stenotarsus* sp. n., *M. binotatus*, and *M. semenovi*.

25. *Meligethes auripilis* Reitter, 1889

Meligethes auripilis Reitter, 1889: 558
Meligethes brevipilus Kirejtshuk, 1980: 837, **syn. n.**

Type locality. China, "Shan-si" [= Shansi, = Shanxi] and "Kan-ssu" [= Kansu, = Gansu] (Reitter 1889). [Type locality of *Meligethes brevipilus*: China, Sichuan, "between Kandin and Ya'an, Da-Tszyan'-Lu" (Kirejtshuk 1980); Holotype of the latter taxon: ZIN (Kirejtshuk 1980)].

Syntypes. Their present-day placement is unknown to us.

Diagnosis. *Meligethes auripilis* can be easily differentiated by the other members of the *M. binotatus-auripilis* complex by the very differently shaped male genitalia (the aedeagus being peculiarly large, markedly widest at its distal fifth, with abrupty narrowed and minutely spatulate apex, the tegmen being also large, narrow, parallel-sided, and exhibiting a relatively short, pear-shaped distal excision), and by its elongate body shape, chiefly elytra, the uniformly blackish to dark-brown colouration, with piceous-brown to orange legs and antennae, and paler pronotal sides. Easily separated also by *M. argentithorax* sp. n. by its more elongate body shape, chiefly elytra, and by its characteristic (although variable) golden-silvery pubescence covering its elytral surface, combined with peculiarly weak and narrow metatibiae. Female genitalia of these two species are also different (Figs 15 l-m), although being similar in size.

Description
Size: Length 2.9-3.6 mm, width 1.5-1.9 mm.
Body color and pubescence: External habitus and colouration as figured (Fig. 20 b); dorsal and ventral body surface uniformly blackish to dark castaneous, including pronotum; elytral sides typically same color as disc, pronotal sides frequently paler, brown to reddish. Legs and antennae entirely orange to pale castaneous, with darker antennal club, frequently meso- and metatibiae, and meso- and metafemora, with their mesial and distal portions darker, piceous-brown. Pubescence with moderately long and recumbent setae, silvery-golden to silvery-whitish and dense, only partially obscuring the dorsal surface, usually denser, paler and longer in the posterior pronotal third, much shorter and finer on elytra.
Dorsal habitus: body rather convex, wide and oval (Fig. 20 b). Ratio LPR1/LELY = 0.50-0.54; ratio WPR1/LPR1 = 1.68-1.72; ratio WPR2/LPR1 = 1.72-1.75; ratio WPR2/WPR1 = 1.02-1.03; ratio LELY/WELY = 1.03-1.06; ratio WPR1/WPRA = 1.62-1.68; ratio WPR1/WELY = 0.91-0.94; ratio WPR2/WELY = 0.95-0.98.
Anterior margin of clypeus almost truncated; pronotum with distinct posterior angles (Fig. 20 b), distinctly projecting backwards. Elytral punctures markedly finer and more dense than those of pronotum, much smaller in size than eye facets, oval, separated by less than one diameter, with fine transversal strigosity, more marked around scutellum. Interspaces between pronotal punctures more or less shining; interspaces between elytral punctures usually more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex obtusely rounded in females, distinctly obtusangulate in males (Fig. 20 b).
Ventral habitus: Male metaventrite exhibiting a marked mediolongitudinal impression, widened behind its midlength, besides it markedly convex, densely punctate, shining, at sides duller, without tufts of erect hairs. In females metaventrite flattened or gently depressed behind its midlength, the mediolongitudinal line hardly impressed.
Appendages: antennae (Fig. 20 b) peculiarly long and slender, exhibiting ratio ANLE/HWEA = 1.10-1.13, ratio CLLE/W10J = 1.50-1.55, ratio L03J/W03J = 2.90-3.05; ratio L03J/L02J = 1.24-1.28; ratio L03J/L04J =1.31-1.35. Male protarsal plates (Fig. xx) moderately wider than in females, ratio WFTA/LFTA = 0.29-0.31 (ratio WFTA/LFTA = 0.23-0.26 in females); protibiae with minute rather sharp teeth on apical third of their outer margins (Fig. 20 b), exhibiting a ratio LETI/WITI ≈ 3.5-3.7 in males, ≈ 3.7-3.9 in females. Posterior tibiae in both sexes relatively narrow, their inner margin only moderately arcuated (Fig. 20 b), ratio WPTI/LPTI = 0.24-0.28.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 9 e-f), characterized by peculiarly large, long and parallel-sided aedeagus, markedly widened at its distal fifth, with gently narrowed and minutely spatulate apex, ratio LEAE/WIAE = 3.10-3.50. Tegmen long, rather parallel-sided, widest at distal third, medial distal excision moderately deep, widely pear-shaped (ratio DTIN/LETE≈ 0.25), its inner margins with marked projection; ratio LETE/WITE = 1.90-1.96. Main sclerites of internal sac (endophallus) rather long, rod-shaped in both dorsal and lateral view.

Female genitalia (ovipositor): distal apex as figured (Fig. 15 m), narrowly pointed, distal apex of each gonocoxite obliquelyely truncate, their combined apices so forming a narrowly V-shaped distal emargination (ratio STLE/DSIA ≈ 0.45; ratio STLE/CGOW ≈ 0.07; ratio GONL/CGOW ≈ 1.20). Basal portions of gonocoxites moderately directed proximad, their laterally directed apices bluntly rounded. Ratio OVPL/GONL ≈ 2.90.
Variation: This species is moderately variable in body size and body colouration, as above described.

Material examined. **China**: Yunnan Province, Yulong Mts. [Yulongshan], 20 Km N of Lijiang, dry river, 27.05.39N, 100.13.45E, 3406 m, 30 May 2002, A. Konstantinov & M. Volkovich lgt, 2 ♂♂, 1 ♀ (CAS, NMPC, CAR); Yunnan Province, Yulong Mts. [Yulongshan], 27 Km N of Lijiang, dry river, 27.06.55N, 100.16.54E, 3190 m road side, 1 Jun 2002, A. Konstantinov & M. Volkovich lgt, 1 ♀ (CAS); Yunnan Province, Yulong Mts., 35 Km N of Lijiang, Heishui, 27.13N, 100.19E, [≈ 2800 m], 19 Jul 1992, E. Jendek lgt, 1 ♂, 1 ♀ (NMPC, CAR); ibidem, 1-19 Jul 1992,S. Bečvář lgt, 2 ♂♂ (NMPC); Yunnan Province, Yulong Mts., 50 Km N of Lijiang, Yulongshan Nat. Reserve [≈ 3500 m], 24-29 Jun 1993, E. Jendek & O. Šauša lgt, 3 ♂♂, 6 ♀♀ (NMPC, CAR); Yunnan Province, Yulong Mts., Baishui, 27.08N, 100.14E, 2900-3500 m, 7-12 Jul 1990, V. Kubáň lgt, 2 ♀♀ (NMPC, CAR); Yunnan Province, Lugu Lake, Luo Shui, 27.45N, 100.45E, [≈ 2800 m], 8-9 Jul 1992, E. Jendek lgt, 2 ♂♂, 3 ♀♀ (NHMW, NMPC, CAR); Sichuan Province, Juizhaigou, [≈ 3500 m], 9-13 Jul 2009, E. Kučera lgt, 2 ♀♀ (NMPC, CAR); Sichuan Province, NW Sichuan, Min Mts., 33.10N, 103.50E, 2500-4500 m, 14-16 Jul 1990, H. Kolibáč lgt, 2 ♀♀ (NMPC, CAR); Sichuan Province, Daxue Shan, W of Kangding, 30.03.13N, 101.57.11E, 2700-2800 m, 24 May 1997, M. Scülke lgt, 1 ♂, 1 ♀ (coll. Shuh); Sichuan, pass 20 km S Muli/Bowa, 27.45N, 101.13E, ca 3500 m, mixed forest, 25 Jul 1995, J. Turna lgt, 1 ♀ (NMPC); Sichuan Province, Xiling Mts., ca. 50 Km W of Dayi, 2300 m, 5-8 May 2006, S. Murzin & L. Shokhin lgt, 1 ♂ (CAL); S Gansu Province, Minshan (= Min Mts.), ca. 60 km NW of Wudu, 2000 m, 10-20 Jun 2005, V. Patrikeev lgt, 1 ♀ (CAL); Gansu Province, Lazikou Valley, 2150 m, 34.08.00N, 103.54.05E, 27 Jun 2005, J. Hájek, D. Král & J. Růžička lgt, 2 ♂♂, 2 ♀♀ (NMPC, CAR); Shaanxi Province, Qing Ling Mts., road between Baoji and Taibai, pass 35 Km S of Baoji, 21-23 Jun 1998, O. Šafránek & M. Trýzna lgt, 2 ♀♀ (NMPC, CAR).

Distribution. **EPA**: GAN, SHX, SHA, SCH, YUN.
M. auripilis has a relatively wide geographic range in central and SW China, in high altitude areas at least from Yunnan southwards, to the Shaanxi and Gansu Provinces northwards and eastwards.

Chorotype. Central-SW Chinese.

Host-plants. Unknown. Probably associated with montane Rosaceae, may be *Rosa* or allied genera.

Habitat. Scrub, high altitude plaines, dry rivers; at least between 2100-4000 m.

Phenology. V-**VI-VII**.

DNA data. Not available.

Taxonomic remarks. *Meligethes auripilis* is member of a small complex of related species mainly distributed in central and southern China, which are easily distinguished each other by the different shape of male and female genitalia. The main portion of the E. Reitter's collection (HNHM) includes some specimens attributed to this species, collected in 'Thibet, Kuku-Nor', Hauser lgt (as below reported, collected in Qinghai Province); this material was long time believed to be conspecific with true syntypes, described from Shanxi and Gansu Provinces (Reitter 1889; Rebmann 1956b), which we have not been able to trace so far in Reitter's collection (HNHM and MHNP) or elsewhere. To this same species refer the drawings published by Rebmann (1956b). But drawings of male and female genitalia of *M. auripilis*, as well as body shape and sizes of the same, published by Kirejtshuk (1992; Figs 16-20, h.o.), obviously represented a different species, apparently very similar to *M. brevipilus* Kirejtshuk, 1980, described from central China (Sichuan). The above cited Kirejtshuk's material resulting unavailable, only the recent availability of the new above listed material from China, Gansu province (NMPC, CAR, CAL) allowed us to finally attribute the latter to the true *M. auripilis*, as likely correctly interpreted by Kirejtshuk (1992), otherwise attributing the material of the Reitter's collection from Qinghai ('Thibet, Kuku-Nor') to a new, undescribed species, which, before the Kirejtshuk's (1992) monograph, was erroneously believed to represent *M. auripilis*, and which is finally described below as *M. argentithorax* sp. n. The above reported available material from Shanxi, Gansu, Shaanxi, Sichuan, and Yunnan, combined with the original description of *M. auripilis* by Reitter (1889) from Shanxi and Gansu, with that of *M. brevipilus* (Kirejtshuk 1980) from Sichuan, and with the redescription of *M. auripilis* given by Kirejtshuk (1992), allowed us to conclude that *Meligethes brevipilus* Kirejtshuk, 1980 = *Meligethes auripilis* Reitter, 1889 (syn. n.). The indication of *M. auripilis* for Jiangsu Province recently published by Jelínek & Audisio (2007) was based on a ♀ specimen of this same species complex which is now not available to confirm our previous identification.

26. *Meligethes argentithorax* sp. n.

Meligethes auripilis auct., partim, nec Reitter, 1889: 558

Diagnosis. *Meligethes argentithorax* sp. n. can be easily differentiated by other members of the *M. binotatus-auripilis* complex by the differently shaped male genitalia (the aedeagus exhibiting a shortly spatulate and obtusely truncated apex, the tegmen exhibiting a short, pear-shaped excision), by its usually uniformly blackish to dark-brown colouration, with orange-yellowish legs and antennae, and by its characteristic and peculiarly long and dense silvery pubescence covering the posterior portion of pronotum.

Description

Size: Length 2.6-3.4 mm, width 1.5-1.9 mm.

Body color and pubescence: External habitus and colouration as figured (Fig. 20 a); dorsal and ventral body surface uniformly blackish-dark castaneous, including pronotum; elytral sides same color as disc. Legs and antennae pale castaneous. Pubescence with long and recumbent setae, silvery-whitish and dense, partially obscuring the dorsal surface, distinctly denser, paler and longer in the posterior pronotal third, shorter on elytra.

Dorsal habitus: body rather convex, wide and oval (Fig. 20 a). Ratio LPR1/LELY = 0.51-0.55; ratio WPR1/LPR1 = 1.80-1.87; ratio WPR2/LPR1 = 1.90-1.95; ratio WPR2/WPR1 = 1.02-1.03; ratio LELY/WELY = 0.94-0.96; ratio WPR1/WPRA = 1.73-1.78; ratio WPR1/WELY = 0.91-0.94; ratio WPR2/WELY = 0.95-0.98.

Anterior margin of clypeus almost truncated; pronotum with distinct but blunt posterior angles (Fig. 20 a), distinctly projecting backwards. Elytral punctures slightly finer and more dense than those of pronotum, distinctly smaller in size than eye facets, oval, separated by less than one diameter, with fine transversal strigosity, more marked around scutellum. Interspaces between pronotal punctures more or less shining; interspaces between elytral punctures usually more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex obtusely rounded in females, minutely obtusangulate in males (Fig. 20 a).

Ventral habitus: Male metaventrite exhibiting a marked mediolongitudinal impression, widened behind its midlength, besides it markedly convex forming on each side a blunt tubercle, densely punctate, shining, at sides duller, without tufts of erect hairs.

Appendages: antennae (Fig. 20 a) rather short, exhibiting ratio ANLE/HWEA = 0.91, ratio CLLE/W10J= 1.32; ratio L03J/W03J = 2.95; ratio L03J/L02J = 1.30; ratio L03J/L04J = 1.58. Male protarsal plates: ratio WFTA/LFTA = 0.35; protibiae with minute rather sharp teeth on apical third of their outer margins, exhibiting a ratio LETI/WITI ≈ 3.6 ,. Posterior tibiae rather narrow, their inner margin only moderately arcuated, ratio WPTI/LPTI ≈ 0.28.

Male genitalia: shape of both tegmen and aedeagus as figured (Figs 9 a-b), characterized by long and markedly parallel-sided aedeagus, ratio LEAE/WIAE = 2.58-2.65, gently narrowed distad, with obtusely and minutely spatulated-truncate aedeagal apex. Tegmen long, rather parallel-sided, widest at distal third, medial distal excision moderately deep, widely pear-shaped (ratio DTIN/LETE ≈ 0.25), its inner margins with marked projection; ratio LETE/WITE ≈ 1.80. Main sclerites of internal sac (endophallus) rather long, rod-shaped.

Female: Pygidium with apex obtusely rounded. In females metaventrite flattened or gently depressed behind its midlength, the mediolongitudinal line hardly impressed.

Female genitalia (ovipositor): distal apex as figured (Fig. 15 l), narrowly subtruncated (ratio STLE/DSIA ≈ 0.55; ratio STLE/CGOW ≈ 0.05; ratio GONL/CGOW ≈ 1.3). Basal portions of gonocoxites moderately directed distad, their laterally directed apices blunt. Ratio OVPL/GONL ≈ 2.50.

Variation: This species is moderately variable in body size (Length 2.6-3.4 mm, width 1.5-1.9 mm) and body colouration. Legs and antennae entirely orange-yellowish to pale castaneous, sometimes with slightly darker antennal club. .Silvery or silvery-golden pubescence on posterior third of pronotum more or less long. Posterior tibiae in both sexes rather narrow, their inner margin only moderately arcuated, ratio WPTI/LPTI = 0.27-0.30. Antennae slightly longer in males than in females, exhibiting ratio ANLE/HWEA = 0.90-0.96, ratio CLLE/W10J= 1.30-1.35; ratio L03J/W03J = 2.90-3.05; ratio L03J/L02J = 1.28-1.32; ratio L03J/L04J = 1.55-1.63. Male protarsal plates markedly wider than in females, ratio WFTA/LFTA = 0.33-0.36 (ratio WFTA/LFTA = 0.22-0.25 in females); protibiae with minute rather sharp teeth on apical third of their outer margins, exhibiting a ratio LETI/WITI ≈ 3.5-3.7 in males, ≈ 3.7-3.9 in females.

Type material. holotype, ♂, **China**: Qinghai Province, 'Thibet, Kuku-Nor' [= Koko-Nor, in Chinese Qinghai Hu or Ch'ing-hai Hu, a salt-lake located on Nan Mts. (Nan Shan)], 3200 m, Jul 1898, F. Hauser lgt (CAR); same locality, 2 ♂♂, 6 ♀♀ (HNHM, NMPC, CAR); Sichuan Province, 'Kiulung-Tatsienlu' [Kiulung Mts., S of Tatsienlu; this town is now named Kangding, but it is known also as Garze or Dardo], E. Reitter (lgt ?), no further data, 1 ♂, 1 ♀ (HNHM, CAR).

Distribution. **EPA**: QIN, SCH.

M. argentithorax sp. n. exhibits probably a relatively restricted geographic range in China, in high altitude areas of the Qinghai and Sichuan Provinces.

Chorotype. Central Chinese.

Host-plants. Unknown. Probably associated with montane Rosaceae, may be *Rosa* or allied genera.

Habitat. Scrub, high altitude plaines; at least between 2000-3200 m.

Phenology. **VI-VII**.

DNA data. Not available.

Taxonomic remarks. *Meligethes argentithorax* sp. n. is member of a small complex of related species mainly distributed in southern China, and which are easily distinguished from this new taxon mainly based on the different shape of male genitalia. The whole of the material housed in the E. Reitter's collection (HNHM), and several other specimens distributed in other European museums, labeled as "*M. auripilis*", and collected in 'Thibet, Kuku-Nor', Hauser lgt (now Qinghai Province), represents, in fact, this new species. To this same species refer also the drawings of *M. auripilis* published by Rebmann (1956b).

27. *Meligethes clinei* sp. n.

Type locality. China, Yunnan Province, Yulong Mts. [Yulongshan], env. of Lijiang (CAS).

Diagnosis. *Meligethes clinei* sp. n. can be easily differentiated by the closely related but probably allopatric *M. argentithorax* sp. n. and by the sympatric *M. auripilis*, by the very differently shaped male genitalia (tegmen exhibiting peculiarly narrow paramera and peculiarly wide and deep V-shaped distal excision). Body shape nearly as in *M. auripilis*, then less elongate than in *M. auripilis*. Easily distinguished also from members of the related *M. binotatus* complex by its nearly uniform blackish dorsal colouration, the piceous-brown legs and antennae, and by the amply distinct male genitalia.

Description (♂ holotype)
Size: 3.0 mm length, 1.7 mm width.
Body color and pubescence: external habitus and colouration as figured (Fig. 20 c); dorsal and ventral surface blackish, including pronotum, but pronotal sides slightly paler, nut-brown. Legs and antennae uniformly piceous-brown, with paler tarsi and antennomeres 1st to 5th. Pubescence with moderately long, dense and prostrate silvery-golden setae, partly obscuring the pronotal and scutellar surface, chiefly in the pronotal posterior third, markedly finer and shorter on elytra.
Dorsal habitus: body moderately convex, oblong and oval (Fig. 20 c; body dorsally damaged). Ratio LPR1/LELY = 0.50; ratio WPR1/LPR1 = 1.90; ratio WPR2/LPR1 = 1.95; ratio WPR2/WPR1 = 1.02; ratio LELY/WELY = 0.95; ratio WPR1/WPRA = 1.78; ratio WPR1/WELY = 0.91; ratio WPR2/WELY = 0.93.
Anterior margin of clypeus almost truncated; pronotum with distinct but blunt posterior angles (Fig. 20 c), distinctly projecting backwards. Elytral punctures finer and more dense than those of pronotum, markedly smaller in size to eye facets, oval, separated by less than one diameter, with distinct traces of fine transversal strigosity, chiefly around scutellum. Interspaces between pronotal punctures rather shining; interspaces between elytral punctures much more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex barely obtusangulate.
Ventral habitus: Male metaventrite exhibiting in its posterior two thirds a relatively deep mediolongitudinal impression, slightly widened behind its midlength, besides it moderately convex, densely punctate, shining, at sides duller, without tufts of erect hairs.
Appendages: antennae moderately long (Fig. 20 c), exhibiting middle-sized club, ratio ANLE/HWEA = 1.07; ratio CLLE/W10J = 1.48; ratio L03J/W03J = 2.90; ratio L03J/L02J = 1.45; ratio L03J/L04J = 1.45. Protarsal plate absent on right side (the entire right front leg, the left intermediate and posterior legs missing), and damaged on left side (only the first tarsomere available), but, calculating the ratio between width of first tarsomere and width of third tarsomere (WFTA), and the average length of protarsi (LFTA) in other *Meligethes* species of the same size, ratio WFTA/LFTA ≈ 0.32; protibia (only the left one available) with minute teeth on distal third of their outer margins , ratio LETI/WIT I= 3.7. Posterior tibiae relatively narrow, their inner margin only slightly arcutaely convex, ratio WPTI/LPTI = 0.26.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 9 c-d), characterized by relatively short, parallel-sided aedeagus, ratio LEAE/WIAE = 1.93, gently narrowed distad, with widely spatulate apex. Tegmen relatively short and wide, widest at distal third and proximad, paramera peculiarly narrow and distad slightly curved inwards, its medial distal excision deep, widely V-shaped (ratio DTIN/LETE ≈ 0.30), its inner margins with minute obtuse projection; ratio LETE/WITE = 1.42. Main sclerites of internal sac (endophallus) fork-shaped in dorsal view, rod-shaped in lateral view.
Female: unknown.

Type material. Holotype, ♂, **China**: Yunnan Province, Yulong Mts. [Yulongshan], env. of Lijiang, dry river, 27.12.30N, 100.16.01E, 3082 m, 28 May 2002, A. Konstantinov & M. Volkovich lgt (CAS).

Distribution. **EPA**: YUN.
M. clinei sp. n. is known only from the above cited locality in SW China, Yunnan.

Chorotype. SW Sinic.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native Chinese high altitude *Rosa* sp. or to other Rosaceae.

Habitat. High altitude clearings, and edges of high altitude forest habitats; collected around 3100 m.

Phenology. **V-VI**. Probably active at least between May and July.

DNA data. Not available.

Name derivation. Dedicated to the renowned entomologist and dear friend Dr. A.R. Cline (Sacramento, USA) in appreciation of his developing researches on Nitidulidae taxonomy.

Taxonomic remarks. *Meligethes clinei* sp. n. occupies a rather isolated position within the *M. auripilis* complex, mainly due to the peculiarly shaped male genitalia.

28. *Meligethes aurifer* sp. n.

Type locality. China, Shaanxi Province, Hua Mts. [= Hua Shan].

Diagnosis. *Meligethes aurifer* sp. n. can be easily differentiated by the related and sympatric *M. argentithorax* sp. n. by the paler body, uniformly dull bronze-brown to olivaceous, with orange pronotal sides, the yellowish legs and antennae, the uniform and moderately long dorsal silvery-golden pubescence on both pronotum and elytra, the more markedly impressed metaventrite in males, and by the differently shaped male genitalia. Easily distinguished also from the geographically vicariant *M. clinei* sp. n. and *M. auripilis*, which are characterized by darker colouration of body and appendages, narrower metatibiae, and by amply distinct male genitalia.

Description (♂ holotype)
Size: 3.2 mm length, 1.7 mm width.
Body color and pubescence: external habitus and colouration as figured (Fig. 20 d); dorsal and ventral surface bronze-brown. Legs and antennae entirely orange-yellowish, including antennal club, which is hardly darker. Pubescence with rather long, dense and prostrate silvery-golden setae, only moderately obscuring the dorsal surface, uniformly long and dense on pronotum, scutellum, and elytra, and uniformly coloured.
Dorsal habitus: body moderately convex, oblong and oval (Fig. 20 d). Ratio LPR1/LELY = 0.54; ratio WPR1/LPR1 = 1.76; ratio WPR2/LPR1 = 1.79; ratio WPR2/WPR1 = 1.02; ratio LELY/WELY = 0.95; ratio WPR1/WPRA = 1.72; ratio WPR1/WELY = 0.90; ratio WPR2/WELY = 0.92. Anterior margin of clypeus very slightly arcuately emarginated, almost truncate, pronotum with distinct but blunt posterior angles (Fig. 20 d), distinctly projecting backwards. Pronotal punctures similar in size to eye facets, dense, separated by less than one diameter, elytral punctures finer and nearly as dense as those of pronotum, smaller in size to eye facets, oval, separated by less than one diameter, with feeble traces of fine transversal strigosity only around scutellum. Interspaces between pronotal punctures rather shining; interspaces between elytral punctures more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex minutely but very distinctly pointed at apex (Fig. 20 d).
Ventral habitus: Male metaventrite exhibiting a relatively deep mediolongitudinal impression, slightly widened behind its midlength, besides it rather convex, densely punctate, shining, at sides duller, without tufts of erect hairs.
Appendages: antennae rather short (Fig. 20 d), exhibiting relatively narrow club, ratio ANLE/HWEA = 0.96; ratio CLLE/W10J = 1.45; ratio L03J/W03J = 2.95; ratio L03J/L02J = 1.32; ratio L03J/L04J = 1.50. Protarsal plates with ratio WFTA/LFTA = 0.37; protibiae with minute but sharp teeth on distal third of their outer margins, ratio LETI/WITI = 3.6. Posterior tibiae moderately wide, their inner margin moderately arcuated (Fig. 20 d), ratio WPTI/LPTI = 0.30.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 9 g-h), characterized by markedly parallel-sided but relatively short aedeagus, ratio LEAE/WIAE = 2.00, abruptly and shortly narrowed distad, with rather narrowly spatulated-emarginate aedeagal apex. Tegmen widest at distal third, but rather parallel-sided in proximal half, its medial distal excision shallow, very widely U-shaped (ratio DTIN/LETE ≈ 0.18), its inner margins without projection; ratio LETE/WITE = 1.42. Main sclerites of internal sac (endophallus) as figured (Fig. 9 i), fork-shaped in dorsal view, rod-shaped in lateral view.
Female: in female metaventrite flattened, simple. Pygidium with obtusely rounded apex. Protarsal plates much narrower than in males (ratio WFTA/LFTA ≈ 0.25); protibiae distinctly narrower, ratio LETI/WITI ≈ 4.0.
Female genitalia (ovipositor): distal portion as figured (Fig. 16 a), distal apex of each gonocoxite relatively pointed, forming a combined widely V-shaped, relatively deep distal emargination (ratio STLE/DSIA ≈ 0.40; ratio STLE/CGOW ≈ 0.08; ratio GONL/CGOW ≈ 1.5). Basal portion of gonocoxites bluntly pointed and slightly directed proximad. Ratio OVPL/GONL ≈ 2.40.
Variation: The paratypes agree with holotype in most characters, including shape and body colouration. Sizes: 3.1-3.2 mm length, 1.6-1.7 mm width. Male protarsal plates with ratio WFTA/LFTA = 0.37-0.38.

Type material. Holotype, ♂, **China**: Shaanxi Province, Hua Mts., 110 Km NEE of Xian, Huayin, 1275 m, 34.29.50N, 110.05.10E, granite cliff, 8-9 May 2011, M. Balke & J. Hájek lgt, (NMPC). Paratypes: same data as holotype, 2 ♂♂, 3 ♀♀ (NMPC, CAR); **China**: Shaanxi Province, Hua Mts. (= Hua Shan), without further indications, 34.27N, 110.06E, 17-21 Jun 1991, R. Dunda lgt, 1 ♂ (NMPC); Shaanxi Province, Qin Ling Mts. [= Qin Ling

Shan], Hua Mts. [= Hua Shan], N Valley, 118 Km E of Xi-an, 18-20 Aug 1995, by sifting, 1200-1400 m, M. Schülke lgt, 1 ♂ (NKMS); Shaanxi Province, Hua Mts., 110 Km NEE of Xian, Huayin, 1275 m, 34.29.50N, 110.05.10E, granite cliff, 8-9 May 2011, M. Balke & J. Hájek lgt, 3 ♂♂, 3 ♀♀ (NMPC, CAR); Shanxi, Yongji [approximately 700-1500 m], 8-12 May 2010, E. Kučera lgt, 3 ♂♂, 2 ♀♀ (NMPC, CAR); Shanxi, Wulaofeng near Yongji, 29 May-1 Jun 2011, E. Kučera lgt, 1 ♂ (NMPC); Shanxi, 35 km E of Yongji, 6-18 May 2007, E. Kučera lgt, 1 ♀ (NMPC).

Distribution. **EPA**: SHA, SHX.
M. aurifer sp. n. is only known from the few above listed localities in central China, Shaanxi and Shanxi Provinces.

Chorotype. Central Chinese.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native Chinese middle altitude *Rosa* sp. or to other Rosaceae.
Habitat. Middle altitude rocky habitats and cliffs at forest margins; on the Hua Shan Mts. this species was collected along granite cliffs. Collected around 1000-1400 m.

Phenology. **V-VI**. Probably active in Spring-Summer; one ♂ paratype was collected in August by sifting.

DNA data. Not available.

Name derivation. named for its moderately long, silvery-golden and uniformly distributed dorsal pubescence [from Latin *aurum* = gold, and *fero* = to have on, to bring].

Taxonomic remarks. *Meligethes aurifer* sp. n. occupies a rather isolated position within the *M. auripilis* complex, due to its uniform bronze-brown colouration, and the uniform length of dorsal silvery-golden pubescence on pronotum, scutellum, and elytra. The shape of male genitalia however suggests a taxonomic position close to *M. auripilis* and allied species, while its ovipositor is more reminiscent of *M. binotatus* and allies.

29. *Meligethes aureolineatus* sp. n.

Type locality. China, Sichuan Province, road Juizhaigou-Nanping.

Diagnosis. *Meligethes aureolineatus* sp. n. can be easily differentiated by the related and nearly sympatric *M. argentithorax* sp. n. by the paler brown body, uniformly bronze-brown, with orange-yellowish pronotum characterized by bronze-brown discal portion, the yellowish legs and antennae with dark brown antennal club, the uniform and rather long dorsal golden pubescence on head, scutellum, and pronotum (except discal portion of the latter, bearing brown setae), each elytron being characterized by brown pubescence with a peculiar series of longitudinal stripes composed by distinctly paler (yellowish to pale golden) hairs.

Description (♀ holotype)
Size: 3.2 mm length, 1.7 mm width.
Body color and pubescence: external habitus and colouration as figured (Fig. 20 g); dorsal and ventral surface bronze-brown, except the pronotum, which exhibits a pale brown-yellowish colouration, except the brown discal portion. Legs and antennae orange-yellowish, excluding the antennal club, which is markedly darker, blackish-brown. Pubescence with rather long, dense and prostrate setae, only partly obscuring the dorsal surface, uniformly long and dense on head, pronotum, scutellum, and elytra; dorsal pubescence is golden on head, scutellum, and pronotum (except discal portion of the latter, bearing brown setae), while each elytron is characterized by dominant brown pubescence with a peculiar series of longitudinal stripes composed by distinctly paler, cream-golden hairs (Fig. 20 g), one wider at sides, one interrupted little after the humeral area, a third one nearly in the middle, extended along the proximal elytral half, and the last, almost complete, along the suture).
Dorsal habitus: body moderately convex, oblong and oval (Fig. 20 g). Ratio LPR1/LELY = 0.54; ratio WPR1/LPR1 = 1.83; ratio WPR2/LPR1 = 1.80; ratio WPR2/WPR1 = 0.98; ratio LELY/WELY = 0.97; ratio WPR1/WPRA = 1.80; ratio WPR1/WELY = 0.96; ratio WPR2/WELY = 0.94.
Almost truncate anterior margin of clypeus; pronotum with distinct but blunt posterior angles (Fig. 20 g), distinctly projecting backwards. Head and pronotal punctures slightly larger in size to eye facets, dense, separated by half a diameter, elytral punctures finer, nearly as dense as those of pronotum, smaller in size to eye facets, oval, separated by nearly one diameter, without traces of transversal strigosity. Interspaces between head and pronotal punctures shining; interspaces between elytral punctures more distinctly reticulated and duller. Pygidium with rather dense flatly granular punctures, its apex broadly rounded (Fig. 20 g).
Ventral habitus: female metaventrite flat, simple.
Appendages: antennae rather short (Fig. 20 g), exhibiting relatively narrow club, ratio ANLE/HWEA = 0.75; ratio CLLE/W10J = 1.38; ratio L03J/W03J = 2.95; ratio L03J/L02J = 1.02; ratio L03J/L04J = 1.56. Protarsal plates with ratio WFTA/LFTA = 0.31; protibiae with minute but relatively sharp teeth on distal third of their outer margins (Fig. 20 g), ratio LETI/WITI = 3.7. Posterior tibiae moderately wide, their inner margin moderately arcuated (Fig. 20 g), ratio WPTI/LPTI = 0.35.
Female genitalia: unknown. The single ♀ holotype was unfortunately devoided of its ovipositor when studied by the Authors.
Male: unknown.

Type material. Holotype, ♀, **China**: Sichuan Province, road Juizhaigou-Nanping [= Jiuzhaigou Valley towards Nanping Forest, between 2100/2700 m], 11-14 Jun 2011, E. Kučera lgt (NMPC).

Distribution. **EPA**: SCH.
M. aureolineatus sp. n. is known only from the single type locality in central China, N Sichuan.

Chorotype. Central Chinese.

Host-plants. **N**o insect-host plant information available. Probably associated at larval stage with flowers of a native Chinese middle altitude *Rosa* sp. or to other Rosaceae.

Habitat. Unknown. Collected probably around 2300/2500 m.

Phenology. **VI**. Probably active in Spring-Summer.

DNA data. Not available.

Name derivation. Named for its characteristically disposed, creamy-golden and line-shaped paler dorsal discal pubescence on each elytron [from Latin *aureus* = golden, and *lineatus* = bringing a line].

Taxonomic remarks. *Meligethes aureolineatus* sp. n. occupies a rather isolated position within the *M. auripilis* complex, due to its characteristic bronze-brown colouration, the uniform length of dorsal pubescence on pronotum, scutellum, and elytra, and the peculiar, narrow and quite distinct longitudinal stripes of creamy-golden setae on elytra, markedly standing out against brown elytral dominant pubescence. Unfortunately, the missing female genitalia and the absence of male specimens do not allow a more circumstantiated morphological placement of this characteristic taxon.

2. subg. *Odonthogethes* Reitter, 1871 (= *Meligethes denticulatus* lineage)

Members of this lineage combine always toothed (sharply toothed or at least obtusely toothed) tarsal claws (Figs 2 d-e), microsetae of middle portion of the posterior edge of pronotum (in front of scutellum) less distinctly visible, finer, relatively shorter, usually distally bifid (Fig. 1 c), markedly shorter than width of 7th antennomere, postocular subcircular pit placed immediately under the posterior ventrolateral edge of each eye, much dorsad than in *Meligethes* s.str., and markedly outside the posterior end of antennal grooves (Fig. 1 b), tegmen always without projections along the distal inner edge of the paramera, and longer distal setae on paramera, the longest setae exhibiting a ratio THLE/LETE = 0.14-0.25 (Figs 10 h, 11-13), exceptionally 0.40-0.45 (Fig. 13 j). In addition, all known species of *Odonthogethes* lack pointed or protruded vertex of pygidium, characteristic (chiefly in males) of several E-Palaearctic species of *Meligethes* s.str., and share relatively small, rod-shaped main sclerites of aedeagal internal sac (Figs 11 k, 12 c-d, 12 o, 13 i)

2.1. The *Meligethes flavicollis*-group

This species-group contains only one species, *M. flavicollis* Reitter, 1873. Combining obtusely and only minutely toothed tarsal claws (Fig. 2e), truncate anterior margin of clypeus, distinctly transversely strigose elytra, and bicolored body.

30. *Meligethes flavicollis* Reitter, 1873

Meligethes flavicollis Reitter, 1873b: 76
Meligethes semirufus Reitter, 1879: 216
Meligethes semirufus ab. *perversecoloratus* Roubal, 1943: 65

Type locality. Japan (Reitter 1873).

Holotype. BMNH (Easton 1956, 1957a).

Diagnosis. *Meligethes flavicollis* can be easily differentiated by the following combination of characters: contrastingly bicoloured body, typically black with head, pronotum and prosternum as well as appendages orange; anterior margin of clypeus truncate; pronotum widest near posterior angles; elytra conspicuously transversely strigose, tarsal claws finely yet distinctly obtusely dentate at their base. Meso- and metatibiae relatively short and broad, ratio length of mesotibia/width of mesotibia ≈ 2.6 (≥ 3.0 in other species of *Odonthogethes*). Tegmen with simply rounded and rather short parameres separated by widely V-shaped excision. Aedeagus comparatively long and parallel-sided, broadly subtruncate apically with distinctly angulate subapical (lateroapical) corners. Ovipositor with comparatively long and narrow gonocoxites and styli inserted near apex.

Description
Size: 2.2-3.0 mm length, 1.3-1.7 mm width.
Body color and pubescence: head and pronotum typically orange, scutellum and elytra black; legs and antennae orange (Fig. 20 h). Prosternum orange, meso- and metasternum and abdomen black. Pubescence with long, thin recumbent setae, yellowish to whitish grey.
Dorsal habitus: body oval, moderately convex (Fig. 20 h). Ratio LPR1/LELY = 0.49-0.52; ratio WPR1/LPR1 = 1.72-1.83; ratio WPR2/LPR1 = 1.77-1.86; ratio LELY/WELY = 1.01-1.02; ratio WPR1/WPRA = 1.63-1.78; ratio WPR1/WELY = 0.90-0.94; ratio WPR2/WELY = 0.93-1.06). Anterior margin of clypeus truncate. Pronotum usually widest somewhat before posterior angles (ratio WPR2/WPR1 = 0.98-1.02), posterior angles obtuse, base besides them

not distinctly concave. Punctures of frons and pronotum fairly equal in size to eye facets, separated by 1.0-1.5 diameters; interspaces densely microscopically punctulate or reticulate, sometimes almost smooth on the disc. Elytra markedly transversely strigose, strigosities rather widely spaced; punctures in the strigosities of variable size, generally much smaller than those of pronotum; interspaces microreticulate to almost smooth.

Ventral habitus: hypomera concave, almost impunctate (punctures small, shallow and widely scattered, indistinct), reticulate. Prosternal process narrow, narrowly rounded to bluntly pointed apically. Mediolongitudinal carina reaching posterior margin of mesoventrite, which is shallowly concave with raised posterior corners. Metaventrite in male broadly concave in posterior half between metacoxae, mediolongitudinal line fine, indistinct; in female metaventrite broadly flattened and with mediolongitudinal impunctate strip behind its midlength.

Appendages: antennae (Fig. 20 h) exhibiting ratio ANLE/HWEA = 0.74-0.82; ratio CLLE/ANLE = 0.28-0.32; ratio CLLE/W10J ≈ 1.2. Male protarsal plates (Fig. 20 h) wider than in females, ratio WFTA/LFTA ≈ 0.30 (ratio WFTA/LFTA ≈ 0.25 in females). Protibiae with outer margin except for 3-4 larger subapical denticles only shallowly and indistinctly crenulate, exhibiting ratio LETI/WITI ≈ 3.0.Tarsal claws at base with small, but distinct, blunt teeth directed more or less parallel to the basal portion of claw (Fig. 2 e).

Male genitalia: shape of tegmen and aedegus as figured (Figs 10 d-e) parameres short, apically rounded, separated by U-shaped medial distal excision; ratio LETE/WITE

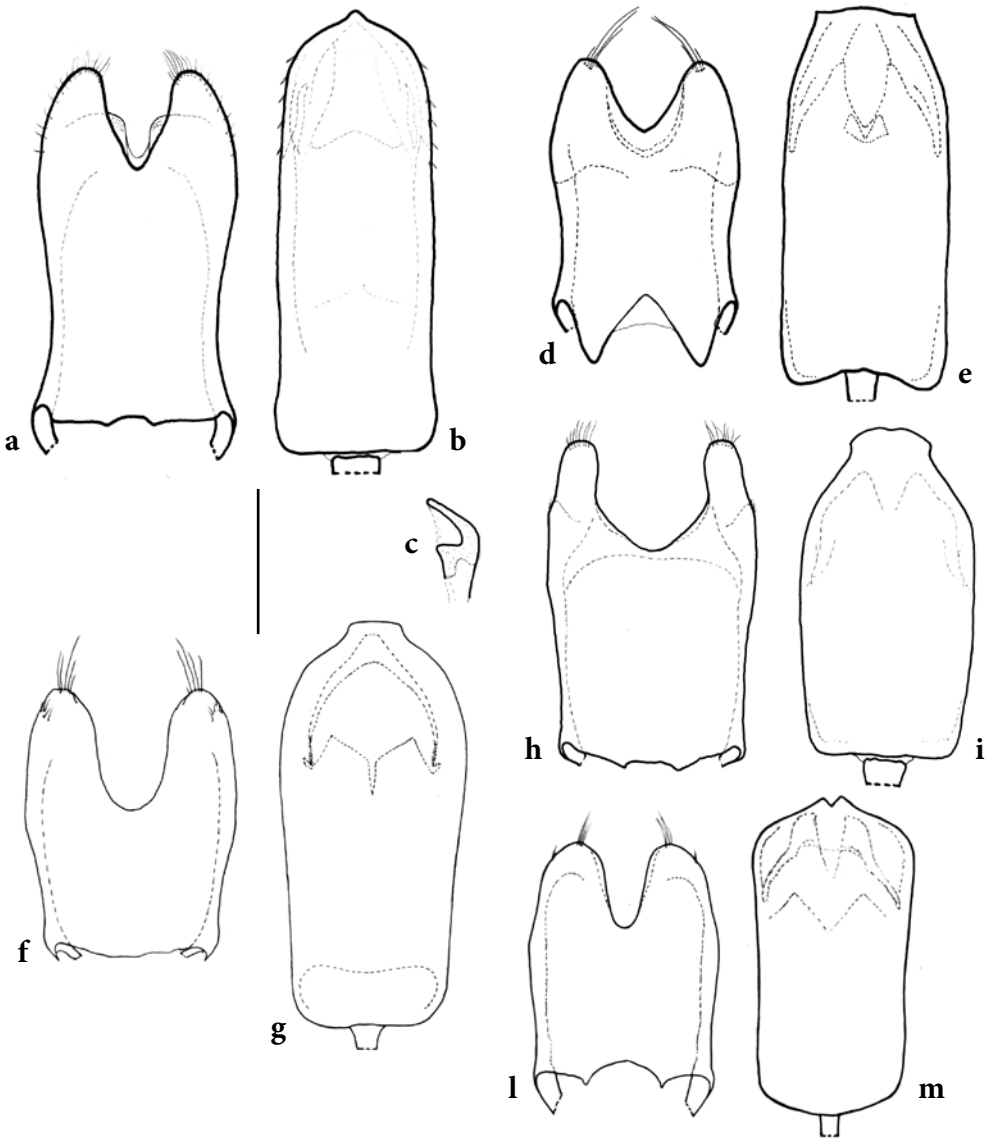

Fig. 10 − Male genitalia of *Meligethes* spp. (**a**, **d**, **f**, **h**, **l**, tegmen, dorsal view; **b**, **e**, **g**, **i**, **m**, median lobe of the aedeagus, dorsal view; **c**, main sclerite of the aedeagus, lateral view: **a**, **b**, **c,** *M. nivalis* sp. n.; **d**, **e**, *M. flavicollis* Reitter, 1873; **f**, **g**, *M. pseudochinensis* sp. n.; **h**, **i,** *M. auricomus* Rebmann, 1956; **l**, **m**, *M. schuelkei* sp. n. Scale bar: 0.2 mm.

= 1.53 ; ratio DTIN/LETE = 0.30. Aedeagus rather long, parallel-sided (ratio LEAE/WIAE ≈ 2.40) with broad subtruncate apex somewhat convex in the middle, and with distinct, bluntly angulate, subapical corners.
Female genitalia (ovipositor): distal apex as figured (Fig. 16 b). Gonocoxites comparatively long, bluntly pointed, with basal margins almost straight, feebly diverging distad and with outer basal corners rounded, hardly prominent; styli peculiarly long, inserted near apex, ratio STLE/DSIA ≈ 1.0; ratio STLE/CGOW ≈ 0.17; ratio GONL/CGOW ≈ 1.7. Basal portion of gonocoxites bluntly pointed outwards and almost straight. Ratio OVPL/GONL ≈ 2.3.
Variation: Sometimes occiput and antennal clubs slightly infuscate, or mesosternum orange, scutellum and abdomen red-brown and elytra black-brown, sometimes with reddish epipleura. Also relative length of antennae seems to be rather variable.

Material examined. **Russia**: Khabarovskiy kray, Boitsovo, 20 km N Bikin, Bolshoy Solntsepyok hill, 47.02N, 134.21E, 250 m, 25-28 May 1993, L. Zerche lgt, 1 specimen (DEI); Primorskiy kray**,** Vladivostok, 1 specimen (NMPC); ibidem, ex coll. Obenberger, 7 specimens (NMPC); ibidem, H. Frieb lgt, 7 specimens (NMPC); ibidem, 1919, Dr. Jureček lgt, 9 specimens (NMPC); Sergeyevka, 30 km N Partizansk, 43.22N, 133.23E, 300 m, 4 Jun 1993, L. Zerche lgt, 12 specimens (DEI, NMPC); Anisimovka, 70 km E Vladivostok, Litovka mtn., 43.08N, 132.41E, 1200 m, L. Zerche et al. lgt, 2 specimens (DEI); 5 km S Ussuriyskiy Zapovednik, 43.42N, 132.01E, 150 m, 10 Jun 1993, L. Zerche lgt, 5 specimens (DEI, NMPC); Ussuriyskiy Zapovednik, 20 Jul 1990, S. Kadlec & Voříšek lgt, 1 specimen (NMPC); Tigroviy, 20-28 Jul 1990, Snížek lgt, 2 specimens (NMPC). **North Corea**: Čhŏngdžin-si province, pass Musan-rjŏng ca 60 km N of Čhŏngdžin, 2 Jun 1965, lgt M. Mroczkowski and A. Riedel, 2 ♀♀ (PANW); Hamgjŏng-pukto province, Kjŏngsŏng district, Onpo-ri, 3 Jun 1965, lgt M. Mroczkowski and A. Riedel, 1 ♀ (PANW); Hamgjŏng-pukto province, Kjŏngsŏng district, Mehjang-ri (ms. Kvanmo-bong), 4 Jun 1965, lgt M. Mroczkowski and A. Riedel, 1 ♂ (PANW); Hamgjŏng-namdo province, at lake Čangdžin-ho, 9 Jun 1965, lgt M. Mroczkowski and A. Riedel, 1 ♂, 3 ♀♀ (PANW). **China**: W Henan, Funiu Shan, Shirenshan, 33.42N, 112.15E, 1400-1900 m, 9 Jul 2006, J. Turna lgt, 1 specimen (NMPC); S. Zhejiang, Caoyutang, 27.55N, 119.39E, 1100-1300 m, 3-4 May 2010, 15 specimens (CAR, NMPC); NE Jiangxi, Wufugang, 27.59N, 118.02E, 1000-1400 m, 27 May 2010, 5 specimens (NMPC). **Taiwan**: Alishan, 2400 m, 10 Jun 1977, J. Klapperich lgt, 9 specimens (MAKB, NMPC); Jinshih Township, Lidong-shan, Hsinchu, 1500-1913 m, 25 Apr 2007, S.-T. Hisamatsu lgt, 4 specimens (NMPC). **Japan**: Yamanaski, Mt. Daibosatsu, 29 May 1977, W. Suzuki lgt, 2 specimens (NMPC); Gumma prefecture, Hôshi, 28 Jul 1958, S. Hisamatsu lgt, 3 specimens (NMPC).

Distribution. **EPA**: FE, HEN, JA, JIX, NC, SC, TAI, ZHE.

Chorotype. Eastern Palaearctic.

Host-plants. Most probably some species of *Rubus*. *Rubus* sp. is given by S.-T.Hisamatsu (2009) among the plants on which *M. flavicollis* was collected on Taiwan. Other plants mentioned by S.-T.Hisamatsu (2009) are most probably only occasional feeding plants of adults.

Habitat. Edges of woods and wooded river banks, mostly at intermediate altitudes (known to occur between 200 and 1400 m).

Phenology. IV-**V-VI-**VII.

DNA data. Not available.

Taxonomic remarks. The true identity of *Meligethes flavicollis* was elucidated by Easton (1956a). This species had been considered as member of *M. atratus* species group (Rebmann 1956b as *M. semirufus*; Easton 1956a, 1957a) until S.-T.Hisamatsu (2009) proved its relationship to *M. denticulatus* species-group based on its dentate tarsal claws and the armature of endophallus. Also the position of its deep postocular fovea is characteristic of the subgenus *Odonthogethes*. Also the presumed association of *M. flavicollis* with some species of *Rubus* suggests this relationship. Nevertheless *M. flavicollis* seems to occupy a rather isolated position among the species of the *M. denticulatus* lineage in combining only minutely dentate tarsal claws with very distinctly transversely strigose elytra.

2.2. The *Meligethes denticulatus*-group

This group is characterized by the combination of broadly oval and unicolored body, truncate anterior margin of clypeus, elytra diffusely punctate, sometimes with traces of transverse strigosities at least at sides, strongly dentate tarsal claws (Fig. 2 d), slender meso-and metatibiae (ratio length of mesotibia/width of mesotibia ≈ 3.3), aedeagus comparatively short, markedly narrowed both anteriorly and posteriorly, bluntly pointed to narrowly subtruncate apically, and large ovipositor with 'central point' nearly centrally placed, ratio OVPL/GONL = 2.1-2.2.

31. *Meligethes denticulatus* (Heer, 1841)

Nitidula denticulata Heer, 1841: 402
Nitidula olivacea Heer, 1841: 402 nec Gyllenhal, 1813: 678
Meligethes hebes Erichson, 1845: 172
Meligethes marginalis Motschulsky, 1860:120
Meligethes lumbaris var. *marginatus* Gredler, 1870: 7
Meligethes flavicollis auct. (partim), nec *Meligethes flavicollis* Reitter, 1873b: 76
Meligethes hebes honshuensis Easton, 1956b: 559

Type locality. Neighbourings of Zürich, Switzerland.

Holotype. ETHZ.

Diagnosis. *M. denticulatus* differs from other related species (*M. wagneri* Rebmann and members of the *M. bourdilloni/chinensis* species-group) by its medium-sized and moderately convex oval body, dark, black-brown prosternum, dorsum with more or less distinct traces of reticulation, elytra with regularly dispersed punctures and without any traces of transverse strigosities, by sharply carinate (roof-shaped) mediolongitudinal ridge of mesoventrite, and by the shape of genitalia.

Description

Size: Length 2.0-3.4 mm, width 1.2-1.9 mm.

Body color and pubescence: dorsal and ventral surface blackish-brown, dorsum sometimes with faint bronze lustre, sides of pronotum as a rule pale, yellowish to reddish (Fig. 21 a), in some specimens from Japan entire pronotum red. Legs and antennae usually yellow-brown, antennal club and/or scape sometimes darker, blackish-brown, seldom entirely brown to blackish-brown with paler pedicel. Pubescence of normal length, recumbent, brownish-yellow, inconspicuous, uniformly developed.

Dorsal habitus: body moderately convex, oval (Fig. 21 a). Ratio LPR1/LELY = 0.45-0.50; ratio WPR1/LPR1 = 1.67-1.85; ratio WPR2/LPR1 = 1.70-1.88; ratio WPR2/WPR1 = 0.98-0.99 in males, 1.00-1.01 in females; ratio LELY/WELY = 1.02-1.17; ratio WPR1/WPRA = 1.59-1.78; ratio WPR1/WELY = 0.88-0.91; ratio WPR2/WELY = 0.87-0.93.

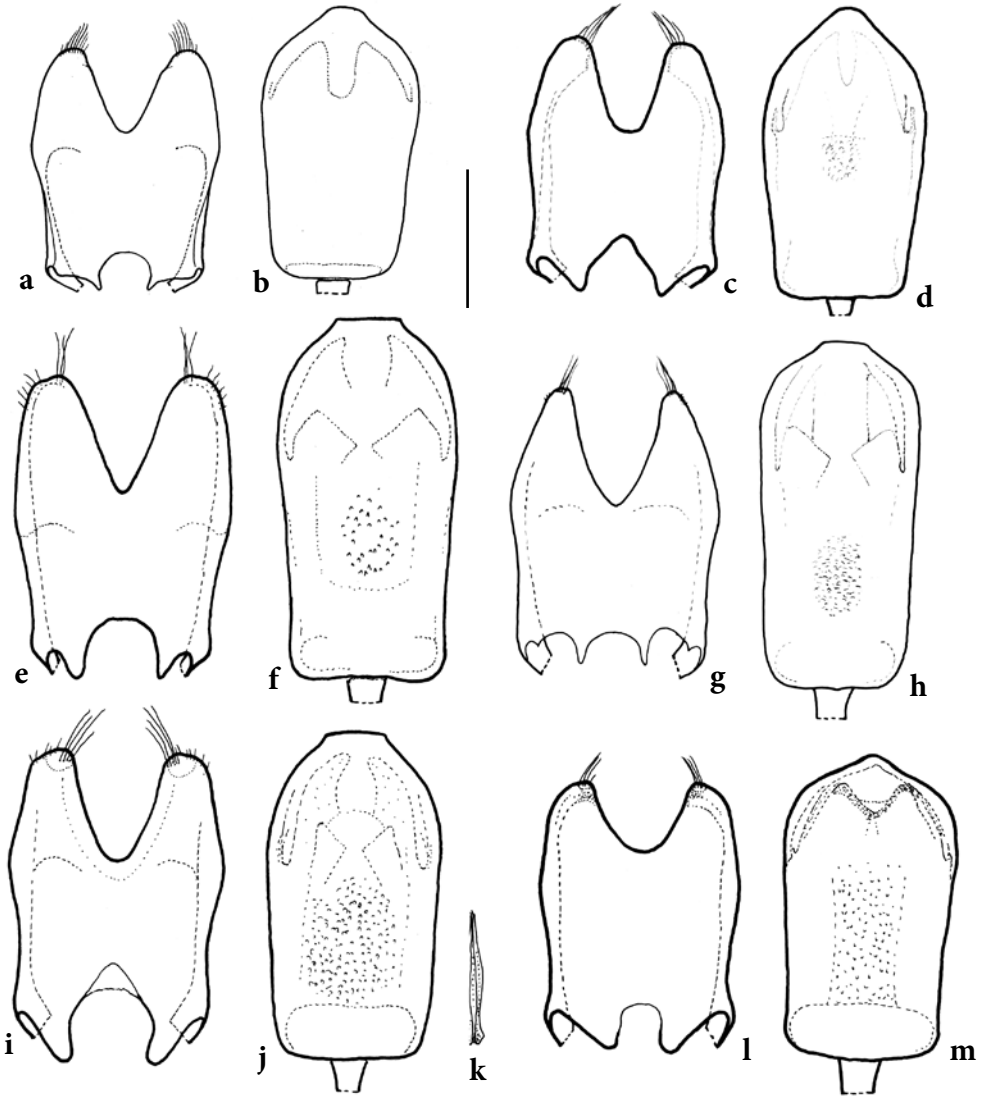

Fig. 11 − Male genitalia of *Meligethes* spp. (**a**, **c**, **e**, **g**, **i**, **l**, tegmen, dorsal view; **b**, **d**, **f**, **h**, **j**, **m**, median lobe of the aedeagus, dorsal view; **k**, main sclerite of the aedeagus, dorsal view): **a**, **b**, *M. denticulatus* (Heer, 1841); **c**, **d**, *M. wagneri* Rebmann, 1956 (male holotype); **e**, **f**, *M. chinensis* Kirejtshuk, 1979; **g**, **h**, *M. henan* sp. n.; **i**, **j**, **k**, *M. bourdilloni* Easton, 1968; **l**, **m**, *M. nigroaeneus* sp. n. Scale bar: 0.2 mm.

Clypeus with truncate anterior margin, flat, separated from frons by shallow transverse impression; pronotum with distinct posterior angles not projecting backwards. Both pronotum and elytra regularly diffusely punctate without transverse strigosities; punctures of head and pronotum nearly equal in size to eye facets and separated by 0.5-1 diameter; those on elytra separated by 1-1.5 diameters, becoming gradually finer in apical half; interspaces variable, from distinct traces of reticulation to almost smooth.
Ventral habitus: prosternal process spindle-shaped with rather acutely pointed apex (Fig. 1 d). Mediolongitudinal carina of mesoventrite sharp, roof-shaped, nearly reaching posterior margin of mesoventrite (Fig. 1 d). Metaventrite in male concave in posterior half between metacoxae with mediolongitudinal line distinct; posterior intercoxal margin rectilinear with smooth impunctate border as broad as the width of pedicel. Metaventrite in female depressed, with short, not impressed mediolongitudinal line.
Appendages: Antennae short with rather broad club (Figs 2 a, 21 a), exhibiting ratio ANLE/HWEA = 0.75-0.81; CLLE/W10J = 1.25-1.35; L03J/W03J = 2.7-2.8; L03J/L02J = 1.4-1.5; L03J/L04J = 1.7-1.8. Male protarsal plates wider than in females, ratio WFTA/LFTA = 0.30-0.32 (0.26-0.29 in females). Protibiae with minute teeth on distal half of their outer margin, two to three subapical ones being distinctly larger than precending ones; ratio LETI/WITI = 3.12-3.33.
Male genitalia: shape of tegmen and aedeagus as figured (Figs 11 a-b). Aedeagus short (ratio LEAE/WIAE ≈ 1.68-1.75; ratio WIAE/BWAE ≈ 1.18.) widest at distal third and arcuately narrowed both anteriorly and posteriorly, in basal third subparallel-sided; apex narrowly truncate. Sides of tegmen somewhat angulate at their midlength, converging both anteriorly and posteriorly; ratio LETE/WITE ≈ 1.30; medial distal excision of tegmen V-shaped, ratio DTIN/LETE ≈ 0.40.
Female genitalia (ovipositor): ovipositor comparatively long with pointed apex without terminal excision (Fig. 16 c); styli small and slender, inserted far from apex (ratio GONL/CGOW ≈ 1.7, STLE/DSIA ≈ 0.28); sides of the tip just behind styli almost straigth; basal portion of gonocoxites transverse, almost straight, its corners long and narrow, obtusely pointed (Fig. 16 c). Ratio OVPL/GONL ≈ 2.10.
Variation: This species is variable for its body size, reticulation of surface (distinct to almost absent) and the extent of the yellowish coloration of antennae and pronotum (often more extensive in the specimens from Japan).

Material examined. Some 600 specimens from Europe, Siberia, and eastern Palaearctic (not listed).

Distribution. **WPA**: AL, AN, AU, BE, BH, BU, BY, CR, CT, CZ, EN, FI, FR, GE, GG, GR, HU, IT, LA, LS, LT, LU, MC, MD, MT, NL, NR, NT, PL, PT, RO, SE, SK, SL, SP, ST, SV, SZ, UK. **EPA**: ES, FE, JA, KI, KZ, MG, NE, NC, NO, NW, TR, UZ, WS.

Meligethes denticulatus is widely distributed in Europe excluding the British Isles and the areas with Mediterranean climate (southwards to montane areas of southern Italy and N Greece), and its range reaches eastward to the eastern Siberia including Sakhalin, and Japan. Easton (1956b) proposed the subspecies *M. denticulatus honshuensis* for the specimens from Japan, which, as discussed below, must be considered as synonym of *M. denticulatus* s.str.

Chorotype. Euroasiatic.

Host-plants. Developing in flowers of various species of *Rubus*, in Europe especially *R. caesius* L. and related species; possibly also in flowers of some other Rosaceae, especially *Prunus* spp.

Habitat. *M. denticulatus* inhabits mesophilous shadowy broad-leaved forests at altitudes mostly between 200-1500 m, often preferring humid and cooler places along water streams.

Phenology. IV-**V-VI-VII**-VIII.

DNA data. Complete sequences of nuclear ITS2 + PEPCK and mtCOI genes are available for this species (Trizzino et al. 2009; Lamanna et al. unpublished data).

Taxonomic remarks. This species was long known under its junior synonym *M. hebes* Erichson, 1845, because *Nitidula denticulata* Heer, 1841 had been misinterpreted by Erichson (1845) and subsequent authors as a species of *Acanthogethes* Reitter, 1871 [currently named *A. lamii* (Rosenhauer 1856); see Audisio 1992, Jelínek & Audisio 2007] until Easton (1955a) revealed its true identity. Specimens from Japan with lighter reddish pronotum were classified by the Japanese authors (e.g. S.Hisamatsu 1953) as *Meligethes flavicollis* Reitter. True identity of the latter species was elucidated by Easton (1956a), who proposed the subspecies *M. denticulatus honshuensis* for the Japanese specimens of *M. denticulatus*. Because the concolorous red pronotum does not occur in all Japanese specimens, which do not differ in other characters from the continental Eurasian populations, the name *honshuensis* is but a junior synonym of *M. denticulatus* (Jelínek & Audisio 2007).

32. *Meligethes wagneri* Rebmann, 1956

Meligethes wagneri Rebmann, 1956a: 45
Meligethes shirozui S. Hisamatsu, 1965: 137, **syn. n.**
Meligethes shrozui: S.-T. Hisamatsu, 2009: 37 [misspelling]

Type locality. China, Fujian [= Fujien, = Fukien], Kuatun. [type locality of *M. shirozui*: Central Taiwan, Oiwake (= Tsifeng)].

Holotype. SMF (Holotype of *M. shirozui*: CHHU).

Diagnosis. *M. wagneri* differs from *M. denticulatus* by its light, brown-yellow prosternum, the smooth and shining, and slightly more convex pronotum and elytra, the latter with irregular transverse strigosities in anterior three/fifths (in most specimens from Taiwan and some on the mainland SE China, the strigosity is confined to elytral sides), the blunt (transversely vaulted) mediolongitudinal ridge of mesoventrite and the bluntly pointed (not obtusely subtruncate) apex of aedeagus.

Description

Size: Length 2.4-3.3 mm, width 1.4-1.9 mm.

Body color and pubescence: Brown-black, clypeus and periphery of pronotum to various extent yellow-brown to red-brown (Fig. 21 b). Head ventrally and prosternum orange to black-brown. Legs and antennae brown-yellow, antennal club sometimes infuscate. Pubescence with thin long recumbent setae not concealing tegument, grey to brownish.

Dorsal habitus: Body broadly oval, moderately convex (Fig. 21 b). Ratio LPR1/LELY = 0.50-0.53; ratio WPR1/LPR1 = 1.79-1.84; ratio WPR2/LPR1 = 1.77-1.86; ratio WPR2/WPR1 = 0.97-1.01; ratio LELY/WELY =. 0.94-0.99; ratio WPR1/WPRA = 1.84-1.97; ratio WPR1/WELY = 0.88-0.92; ratio WPR2/WELY = 0.86-0.93).

Clypeus with truncate anterior margin; posterior pronotal angles distinct, not prominent; explanate sides of pronotum nearly as wide as antennal flagellum, gradually narrowed posteriorly. Punctures of frons and pronotum as large as eye facets, separated by one diameter or less, interspaces smooth or with obsolete traces of reticulation; punctures of elytra becoming gradually finer posteriorly, separated by 1-2 diameters, in their anterior three/fifths with weak, irregular but frequently almost complete transverse strigosity, confined to the elytral sides in some specimens (the latter condition is dominant in populations from Taiwan); interspaces smooth, moderately shining.

Ventral habitus: Prosternal process spindle-shaped, bluntly pointed apically. Mediolongitudinal carina of mesoventrite blunt, nearly reaching posterior margin of mesoventrite. Male metaventrite with deeply impressed mediolongitudinal furrow behind its midlength, female metasternum broadly convex, flattened at posterior intercoxal margin and with indistinct mediolongitudinal line in posterior half.

Appendages: antennae only moderately long (Fig. 21 b). Ratio ANLE/HWEA = 0.76-0.79; ratio CLLE/W10J = 1.18-1.32; ratio L03J/W03J = 2.6-2.7; L03J/L02J = 1.0-1.1; L03J/L04J = 1.6-1.7. ratio WFTA/LFTA = 0.29-0.31 in males, 0.23-0.29 in females; ratio LETI/WITI = 3.11-3.37.

Male genitalia: Tegmen (Fig. 11 c) widest at its midlength, ratio LETE/WITE = 1.26-1.28, tegminal incision V-shaped, ratio DTIN/LETE = 0.40-0.43. Lateral lobes obliquely truncate apically, with maximum lenth at inner margin, ratio THLE/WITE ≈ 0.20. Median lobe (Fig. 11 d) widest at apical fourth, LEAE/WIAE = 1.80-1.82; sides in distal half arcuate, apex bluntly pointed.

Female genitalia: Ovipositor (Fig. 16 d) comparatively broad with pointed apex without terminal excision; styli small and slender, inserted far from apex (ratio GONL/CGOW ≈ 1.4, ratio STLE/DSIA ≈ 0.25); sides of the tip just behing styli gently but distinctly concave; basal portion of gonocoxites transverse, almost straight, its corner rather long, truncate (Fig. 16 d). Ratio OVPL/GONL ≈ 2.20.

Variation: Body length markedly variable (2.4-3.3 mm); in lighter specimens head, prothorax and mesosternum yellow-brown to red-brown, occiput and pronotal disc more or less infuscate, also hypopygium and basal portion of epipleura reddish; in dark specimens entire body brown-black, only sides of pronotum yellowish.

Material examined. **China**: Fujian province, Kuatun, 27.40N, 117.40E, 2300m, 26 May 1938, L. J. Klapperich lgt, ♂ holotype (SMF) [‘Kuatun (2300 m) 27,40n. Br./117,40ö. L. J. Klapperich/26.5.1938 (Fukien) [lila]// Typus [red]// *wagneri n.sp.*/det. Rebmann 42 partly 1HW// 370 HW//Collection/O. Rebmann//’ in original labels]; W Zhejiang, Qianjiang, 29.23N, 118.12E, 720-950 m, 29 May 2010, J.Turna lgt, 2 ♂♂, 1 ♀ (NMPC, CAR). **Taiwan**: Nantou, Sungkang, Renai Township, 27 Jun 2006, S.-T. Hisamatsu lgt, 5 specimens (NMPC); Nantou Hsien, Sun Kang, 1600 m, 17 Apr 1991, Lo lgt, 2 specimens (NHMW, NMPC); Hwa-Lien Hsien, Pi Lui Shorn Mu, 1850 m, 8 May 1991, Lo lgt, 1 specimen (NHMW).

Distribution. **EPA**.

FUJ, TAI, ZHE. This species is known from the Chinese SE provinces of Fujian (= Fujien, = Fukien) and Zhejiang, and from Taiwan.

Chorotype. SE Sinic.

Host-plants. Some specimens from Taiwan were collected in flowers of genera *Prunus*, *Castanopsis*, *Callicarpa* and *Viburnum* (S.-T. Hisamatsu 2009), which, with possible exception of *Prunus*, probably represent only occasional feeding plants of adults. Judging from the close relationship of *M. shirozui* and *M. denticulatus*, some species of *Rubus* L may be the true host plant of *M. shirozui*, even though *Prunus phaeosticta* (Hansen) Maxim. cannot be excluded.

Habitat. Edges of forested montane areas, river edges and shady places, between 1500 and 2300 m.

Phenology. IV-**V-VI-VII**-VIII (S.-T.Hisamatsu 2009).

DNA data. Not available.

Taxonomic remarks. *M. wagneri* from SE China (Fujian) and *M. shirozui* from Taiwan from long time were believed

to represent two evidently closely related taxa, whose specific distinction appeared to be only based on the rather marked transverse elytral strigosity usually dominant in anterior three/fifths in *M. wagneri*, including discal portion, while the anterior half of elytra being irregularly strigose usually only at sides in *M. shirozui*. Recent examen of a short series of specimens of the true *M. wagneri* from continental SE China (W Zhejiang: Qianjiang, see above) allowed us to establish that no constant specific characters (including male and female genitalia) are effective in separating these two taxa: *Meligethes shirozui* S.Hisamatsu, 1965 = *Meligethes wagneri* Rebmann, 1956, **syn. n.**

2.3. The *Meligethes bourdilloni/chinensis*-group

This group is characterized (Figs 21 c-i, 22 a) by the combination of more or less elongate, oval and unicolored body (brown, blackish-brown or blackish green, at most with paler pronotal sides), truncate or subtruncate anterior margin of clypeus, strongly dentate tarsal claws, elytra diffusely punctate, only rarely with feeble traces of transverse strigosities around scutellum, slender meso-and metatibiae (ratio length of mesotibia/ width of mesotibia ≈ 4.0), tegmen comparatively short (Figs 11 e, g, i, l, 12 a, e), aedeagus markedly narrowed both anteriorly and posteriorly, bluntly pointed to widely subtruncate apically (Figs 11 f, h, j, m, 12 b, f).

33. *Meligethes bourdilloni* Easton, 1968

Meligethes bourdilloni Easton, 1968: 46

Type locality. Nepal, Dudh Kosi Valley, Tate.

Holotype. BMNH.

Diagnosis. This species is characterized by the combination of markedly elongate, oval and unicolored blackish, dark brown or blackish-green body, elytra diffusely punctate with only vague traces of transverse strigosities around scutellum, aedeagus widely subtruncate apically, and regularly pointed apex of the ovipositor.

Description

Size: 2.7-3.0 mm length, 1.3-1.6 mm width.

Body color and pubescence: Black, shining, legs and basal portion of antennae piceous-brown (as in Fig. 21 c), dorsal surface sometimes with vague dark green to bronze metallic hues. Pubescence with moderately long recumbent grey setae, not concealing tegument.

Dorsal habitus: Body oblong oval, convex (as in Fig. 21 c). Clypeus with truncate anterior margin; pronotum widest at posterir angles, those obtuse or subrectangular. Punctures of frons and pronotum nearly equal in size to eye facets, on frons mostly separated by more than one diameter, on pronotum separated by ca. 1 diameter at sides, becoming finer and sparser on pronotal disc. Punctures of elytra as on the pronotal disc, separated by 1.5-2 diameters; interspaces smooth and shining, without traces of transverse strigosities. Apex of pygidium obtusely angulate, slightly reflexed dorsally or with shallow preapical impression. Ratio LPR1/LELY = 0.46-0.50; ratio WPR1/LPR1 = 1.74-1.84; ratio WPR2/LPR1 = 1.73-1.86; ratio WPR2/WPR1 = 0.98-1.01; ratio LELY/WELY = 1.01-1.04; ratio WPR1/WPRA = 1.60-1.75; ratio WPR1/WELY = 0.89-0.94; ratio WPR2/WELY = 0.88-0.93.

Ventral habitus: hypomera concave, almost impunctate, obsoletely reticulate, moderately shinng. Prosternal process subparallel-sided, narrowly rounded apically. Blunt mediolongitudinal carina of mesoventrite reaching its posterior margin. Metaventrite in male broadly concave behind its midlength, with impunctate mediolongitudinal strip, in female broadly convex, transversely depressed along posterior intercoxal margin, mediolongitudinal line indistinct.

Appendages: Antennae (as in Fig. 21 c) comparatively short, displaying ratio ANLE/HWEA = 0.73-0.81, antennal club broadly oval, ratio CLLE/ANLE = 0.29-0.34, ratio CLLE/W10J = 1.25-1.28. Male protarsal plates somewhat wider than in female, ratio WFTA/LFTA ≈ 0.23-0.25 (ratio WFTA/LFTA ≈ 0.21 in females). Outer margin of anterior tibiae shallowly serrate-denticulate, with 3-4 larger, acute and widely spaced subapical teeth, ratio LETI/WITI = 3.38-3.50.

Outer margins of meso- and metatibiae finely and densely setose. Tarsal claws strongly dentate, teeth parallel to the distal portion of the claw.

Male genitalia: shape of tegmen and aedeagus as figured (Figs 11 g-h), tegmen displaying ratio LETE/WITE = 1.23-1.30, medial distal excision of tegmen V-shaped, ratio DTIN/LETE = 0.37-0.44; parameres comparatively broad, obliquely subtruncate apically, reaching their maximum length at inner margins. Aedeagus displaying ratio LEAE/WIAE = 1.82-1.88, widest at about its distal third, in its distal third arcuately narrowed towards the narowly truncate apex; truncate apical margin meeting the arcuate lateral margins at distinct angle, sometimes slightly concave.

Female genitalia: distal apex as figured (Fig. 16 g), gonocoxites with narrowly pointed apex, styli short, inserted rather far before apex (ratio STLE/DSIA ≈ 0.33). Ratio GONL/CGOW ≈ 1.60; HSTL/GONL ≈ 1.44; Basal portion of gonocoxites roundly pointed outwards and distinctly directed proximad. Ratio OVPL/GONL ≈ 2.30.

Variation: body size 2.7-3.0 mm length; narrow explanate sides of pronotum, antennomeres 1-2 and legs sometimes yellow-brown.

Material examined. **Nepal**: Karnali province, Jumla district, Churta, E bis Churta, 3000-3500 m, 4 Jun 2007, M. Hartmann lgt, 5 specimens (NKME, NMPC, CAR); Karnali province, Jumla district, Churta, W to pass E of Chur-

ta, 3000-3400 m, 31 May 2007, M. Hartmann lgt, 1 ♀ (NKME); Mechi-Taplejung, 32 km NE Taplejung, way before Gyabla, 27.34.58N, 87.52.17E, 2410 m, 8 May 2003, A. Weigel lgt, 2 ♀♀ (NKME, NMPC). A few available specimens from SW Yunnan are very similar to both Nepalese material of *M. bourdilloni* and to other material of *M. chinensis* from Central China, and their specific attribution is problematic.

Distribution. **A**: NP, YUN ?

Chorotype. Eastern Himalayan-SW Sinic ?

Host-plants. Unknown.

Habitat. Edges of high altitude forested areas.
Phenology. Available specimens were collected in June. Probably active at least from May to July.

DNA data. Not available.

Taxonomic remarks. See Taxonomic remarks for the following species.

34. *Meligethes chinensis* Kirejtshuk, 1979

Meligethes chinensis Kirejtshuk, 1979a: 65

Type locality. China, Sichuan, between Kanding (= Kangding, = Dardo, = Kandinom) and Yaan (= Ya'an) (Kirejtshuk 1979a)

Holotype. ZIN.

Diagnosis. oval convex medium sized body, with dorsal surface diffusely punctate, and with smooth and shining interspaces; elytra without traces of transverse strigosities. Brown-black, prosternum and perifery of pronotum brown-yellow, legs and antennae orange. Male genitalia as with aedeagus comparatively long and narrow, distinctly widened at distal third before the narrowly truncate apex; tips of parameres bluntly rounded. Acutely pointed, regularly narrowed ovipositor.

Description
Size: body length 2.7-3.3 mm, width 1.5-1.8 mm.
Body color and pubescence: brown-black, head and prothorax to various extent lighter, brown-yellow, frons and pronotal disc infuscate. Head and antennae orange. Pubescence normal, yellow to brownish, not concealimg tegument, only in some populations from Shaanxi and Yunnan longer and more developed.
Dorsal habitus: Body shape as in Fig. 21 c. Clypeus with truncate anterior margin. Ratio LPR1/LELY = 0.50-0.56; ratio WPR1/LPR1 =1.72-1.85; ratio WPR2/LPR1 = 1.72-1.83; ratio WPR2/WPR1 = 0.98-1.01; ratio LELY/WELY = 0.90-0.96; ratio WPR1/WPRA = 1.66-1.76; ratio WPR1/WELY = 0.88-0.91; ratio WPR2/WELY = 0.87-0.90.
*Ventral habitus:*mediolongitudinal ridge of mesoventrite bluntly carinate, reaching posterior margin of mesoventrite. Metaventrite with moderately concave or flattened behind its midlength, mediolongitudinal line gently impressed (less so in female).
Appendages: Antennae relatively short (Fig. 21 c); ratio ANLE/HWEA = 0.72-0.82; ratio CLLE/W10J = 1.20-1.33; ratio L/03J/W03J = 2.3-2.4; ratio L03J/L02J = 0.90-0.95; ratio L03J/L04J = 1.20-1.28; ratio WFTA/LFTA = 0.30-0.33; ratio LETI/WITI = 3.80-4.00.
Male genitalia: tegmen (Fig. 11 e) widest at its midlength, tips of lateral lobes obtusely rounded, ratio LETE/WITE = 1.31-1.38; medial distal excision of tegmen V-shaped, rather deep, ratio DTIN/LETE = 0.38-0.42; aedeagus (Fig. 11 f) relatively long, widened at distal third, displaying ratio LEAE/WIAE = 1.90-2.00 and ratio WIAE/BWAE ≈ 1.11-1.15, only gently narrowed distad, apex narrowly truncate-spatulate.
Female genitalia (ovipositor): ovipositor comparatively narrow, with pointed apex without terminal excision (Fig. 16i); styli relatively small and slender, inserted far from apex (ratio STLE/DSIA = 0.30-0.33); sides of the tip just behind styli straight. Ratio GONL/CGOW ≈ 1.4-1.6; basal portion of gonocoxites transverse, not directed proximad, its outer corners rather narrowly rounded. Ratio OVPL/GONL ≈ 2.30.
Variation: This species is highly variable especially for its coloration, punctuation, and body shape.

Material examined. Holotype, ♂: **China**: "[o//12-VI-II [18]93/mezhdu [between] Mungu i Chi-Fa /Potanin [MS in Russian]// Kitay, Sychuan´/ mezhdu Kandinom/ i Yaanem [MS in Russian, China, Sichuan, between Kanading (= Kangding, = Dardo) and Yaan (= Ya'an)]// Holotypus *Meligethes/chinensis*/ det. Kirejtshuk A. 1979 [red label, MS and printed]// (ZIN)]". Further material:
Sichuan, Erlang Mts. [= Erlangshan], E of Luding, 2600-2700 m, 14-15 Jun 2003, S. Murzin lgt, 2 ♂♂, 2 ♀♀ (NMPC, CAR); ibidem, 2800-3000 m, 2 ♀♀ (NMPC, CAR); Sichuan, Liziping, 28 Jun-3 Jul 1991, R. Dunda lgt, 1 ♂, 1 ♀ (NMPC, CAR); Sichuan, Erlang Shan Mts. E of Luding, 12-14 Jun 2003, 2800-3000 m, S. Murzin lgt, 1 ♂ (NMPC); Sichuan W, Daxue Shan W of Kangding, 30.03.13N, 101.57.11E, 2700-2800 m, 24 May 1997, M. Schülke lgt, 1 ♂ (RSC); Sichuan, Wolong, 9-10 Aug 1992, R. Dunda lgt, 1 ♀ (NMPC); Sichuan, Mt. Emei [= Emei Shan], 29.30N, 103.20E, 500-1200 m, 4-18 May 1989, S. & J. Kolibáč lgt, 1 ♀ (NHMB); Mt. Emei [= Emei Shan], 600-1050 m, 5-9 May 1989, L. Bocák lgt, 1 ♀ (NMPC); ibidem, 2800 m, 15-16 Jul 1990, 1 ♀ (NMPC); Gansu S, Venan, 18-26 Jun 1995, Beneš lgt, 2 ♀♀ (NMPC); Yunnan, Yulong Mts., 27.07 N, 100.13 E, 3400 m, 20-21 Jun 1993, Bolm lgt, 2 ♂♂, 1 ♀ (NMPC, CAR); Yunnan, near Zhongdien,

6-8 Aug 1995, J. Schneider lgt, 1 ♂ (CAR); Yunnan, Dali env., Cang Mts. (= Cangshan), 25.41.06N, 100.06.13E, 3500-3700 m, forest trail, 6 Jun 2002, A. Konstantinov & M. Volkovich lgt, 1 ♂ (CAS); Yunnan, Jizu Mts., 25.58N, 100.21E, 2800 m, 30 May-3 Jun 1993, Bolm lgt, 1 ♂ (NMPC); Yunnan, Yulong Mts. [Yulongshan], 20 Km N of Lijiang, dry river, 27.05.39N, 100.13.45E, 3406 m, 30 May 2002, A. Konstantinov & M. Volkovich lgt, 1 ♂, 1 ♀ (CAS, NMPC); Yunnan, Dali env., Cang Mts. (= Cangshan), 25.41.09N, 100.06.24E, 3300 m, 21 May 2002, A. Konstantinov & M. Volkovich lgt, 1 ♀ (ARCC); Henan, Funiu Mts. [= Funiu Shan], Baotianman, 33.05N, 111.09E, 15-17 May 2005, J. Turna lgt, 1 ♂, 1 ♀ (NMPC, CAR); Henan W, Funiu Shan, Baotianman, 33.31N, 111.56E, 1500-1750 m, 6-7 Jul 2006, J. Turna lgt, 8 ♂♂, 12 ♀♀ (NMPC, CAR); Hubei, W portion, road Badong-Yesanguan, Tiechanghuhang, 30.75N, 110.03E, 1300 m, 27-28 Jun 2003, J. Turna lgt, 1 ♂ (NMPC); Hubei, W portion, Dalaoshan Forest Park, 31.05N, 110.95E, 9-10 Jun 2004, J. Turna lgt, 1 ♂ (NMPC).

Distribution. **EPA**: YUN, SCH, SHA, HEN, HUB.

Chorotype. Central and SW Sinic.

Host-plants. Unknown.

Habitat. Edges of high altitude forested areas.

Phenology. V-**VI-VII-**VIII. Most of the available specimens were collected in June. Probably active at least from May to August.

DNA data. Not available.

Taxonomic remarks. As reported above, this common and widespread Chinese species is quite variable in shape, size, color, and punctuation, and it is not easy to appreciate its actual morphological differentiation compared to the closely related and likely allopatric *M. bourdilloni* Easton from Nepal. Male and female genitalia, in fact, are almost identical in both taxa (Figs 11 e-j). However, pending for newly collected material from intermediate areas, as well as for molecular data from different populations within the relatively wide range of morphological and geographic variation of *M. chinensis*, we prefere to tentatively consider here *M. bourdilloni* and *M. chinensis* as closely related vicariant species.

35. *Meligethes henan* sp. n.

Type locality. China, Henan, Funiu Shan (= Funiu Mts.), Shirenshan.

Diagnosis. oval convex medium sized body, with dorsal surface diffusely punctate, and with smooth and shining interspaces; elytra with faint traces of transverse strigosities only in their lateral proximal portion. Brown, prosternum and most of pronotum markedly paler, yellowish-brown, legs and antennae pale orange. This species is manifestly distinct from the closely related and widespread *M. chinensis* by the shorter and wider protibiae, chiefly in males, paler pronotum, combined with distinct male genitalia (characterized by longer and almost parallel-sided aedeagus, and markedly more pointed tips of paramera). Ovipositor nearly as in *M. chinensis*, but with distinctly slender gonocoxites.

Description (♂ holotype):
Size: body length 3.1 mm, width 1.7 mm.
Body color and pubescence: reddish-brown, head and prothorax to various extent lighter, brown-yellow, only discal portion of pronotum darker, reddish-brown, frons and pronotal disc infuscate. Head and antennae orange-yellowish (usually paler than in *M. chinensis*: Fig. 21 c). Pubescence well developed, yellow to brownish, only partially concealing tegument.
Dorsal habitus: Body shape nearly as in Fig. 21 c. Clypeus with truncate anterior margin; Ratio LPR1/LELY = 0.55; ratio WPR1/LPR1 = 1.85; ratio WPR2/LPR1 = 1.83; ratio WPR2/WPR1 = 0.98; ratio LELY/WELY = 0.90; ratio WPR1/WPRA = 1.66; ratio WPR1/WELY = 0.91; ratio WPR2/WELY= 0.90.
Ventral habitus: mediolongitudinal ridge of mesoventrite bluntly carinate, reaching posterior margin of mesoventrite. Metaventrite with moderately concave impression behind its midlength, mediolongitudinal line gently impressed.
Appendages: antennae relatively small and short (as in Fig. 21 c); ratio ANLE/HWEA = 0.79; ratio CLLE/W10J = 1.20; ratio L03J/W03J = 2.35; ratio L03J/L02J = 0.90; ratio L03J/L04J = 1.25. Protibiae relatively short and wide (as in Fig. 21 c), ratio LETI/WITI = 3.50; protarsal plates moderately widened (as in Fig. 21 c); ratio WFTA/LFTA = 0.31). Metatibiae moderately wide (as in Fig. 21 c), ratio LPTI/WPTI = 3.30.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 11 g-h), characterized by nearly parallel-sided and peculiarly long aedeagus, ratio LEAE/WIAE = 2.20 and ratio WIAE/BWAE ≈ 1.05, abruptly and shortly narrowed distad, with rather narrowly spatulated aedeagal apex. Tegmen widest at distal third, but rather parallel-sided in proximal half, its medial distal excision rather deep, widely V-shaped (ratio DTIN/LETE ≈ 0.40), its inner margins without projection; tips of paramera characteristically narrowed and bluntly pointed; ratio LETE/WITE = 1.32. Main sclerites of internal sac (endophallus), fork-shaped in dorsal view, sinuately rod-shaped in lateral view.
Female: in female metaventrite flattened, simple, mediolongitudinal line only slightly impressed. Pygidium with obtusely rounded apex. Protarsal plates distinctly narrower than in males (ratio WFTA/LFTA ≈ 0.25); protibiae dis-

tinctly narrower than in males, ratio LETI/WITI = 3.70-3.75.
Female genitalia (ovipositor): shaped nearly as in *M. chinensis* (Fig. 16 i), but styli inserted slightly less distad than in the latter species (ratio STLE/DSIA = 0.25-0.27), and gonocoxites slightly slender (Ratio GONL/CGOW = 1.7-1.8).
Variation: Body sizes: length 2.7-3.1 mm, width 1.5-1.7 mm. Most paratypes agrees with holotype in all characters, including shape and body colouration. Ratio LPR1/LELY = 0.50-0.56; ratio WPR1/LPR1 = 1.75-1.85; ratio WPR2/LPR1 = 1.80-1.83; ratio WPR2/WPR1 = 0.98-1.00; ratio LELY/WELY = 0.90-0.95; ratio WPR1/WPRA = 1.66-1.76; ratio WPR1/WELY = 0.88-0.91; ratio WPR2/WELY= 0.87-0.90.

Type material. Holotype, ♂, **China**: Henan W, Funiu Shan (= Funiu Mts.), Shirenshan, 33.42N, 112.15E, 1400-1900 m, 9 Jul 2006, J. Turna lgt (NMPC). Paratypes: same data as holotype, 17 ♂♂, 12 ♀♀ (NMPC, CAR); **China**: Henan, Funiu Mts. [= Funiu Shan], Baotianman, 33.31N, 111.56E, 1500/1750 m, 6-7 Jul 2006, J. Turna lgt, 1 ♂, 1 ♀ (NMPC).

Distribution. **EPA**: HEN.
M. henan sp. n. is only known from the above cited localities in central China, Henan Province.

Chorotype. Central Chinese.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native Chinese middle altitude *Rosa* sp. or to other Rosaceae.

Habitat. Middle altitude areas at forest margins; collected between 1500-1750 m.

Phenology. **V-VI-VII**. Probably active in Spring-Summer.

Name derivation. Named in apposition for its Chinese Province of occurrence, Henan [= Honana].

Taxonomic remarks. This species, member of the *M. chinensis*-complex, seems to be sympatric with *M. chinensis* in middle-altitude areas of N Central China (Henan).

36. *Meligethes pseudochinensis* sp. n.

Type locality. China, Hubei, Tiechanghuhang.

Diagnosis. oval convex medium sized body, with dorsal surface diffusely punctate, and with smooth and shining interspaces; elytra with faint traces of transverse strigosities only in their lateral proximal portion. Brown, prosternum and lateral sides of pronotum markedly paler, yellowish-brown, legs and antennae pale orange. This species is manifestly distinct from the closely related and widespread *M. chinensis* and the closely related *M. henan* sp. n. by the markedly distinct male genitalia (chiefly the aedeagus, recalling only that of *M. luteoornatus* sp. n.), and by the peculiarly shaped ovipositor, exhibiting a cuspidate distal apex of gonocoxites, with long styli placed more close to the apex than in all other known species of *Odontogethes*, and with peculiarly narrow basal portion of gonocoxites.

Description (♀ holotype):
Size: body length 2.9 mm, width 1.6 mm.
Body color and pubescence, dorsal and ventral habitus, and appendages: as in *M. chinensis* described above. Metaventrite flattened, simple, mediolongitudinal line only slightly impressed.
Female genitalia (ovipositor): peculiarly shaped (Fig. 16 m), with cuspidate apex and long styli inserted much more distad than in all other known specie of the *M. chinensis* complex (ratio STLE/DSIA ≈ 1.1), and bases of gonocoxites markedly narrower (Ratio GONL/CGOW ≈ 2.1); ratio STLE/CGOW ≈ 0.18; ratio OVPL/GONL ≈ 2.10.
Male: metaventrite markedly impressed along the midline in posterior two thirds. Pygidium with obtusely rounded apex. Protarsal plates and protibiae distinctly wider than in female.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 10 f-g), characterized by nearly parallel-sided and long aedeagus, ratio LEAE/WIAE = 2.20 and ratio WIAE/BWAE ≈ 1.25, abruptly and shortly narrowed distad, with rather narrowly spatulated aedeagal apex. Tegmen widest at distal third, but rather parallel-sided in proximal half, its medial distal excision rather deep, widely V-shaped (ratio DTIN/LETE ≈ 0.45), its inner margins without projection; tips of paramera bluntly rounded; ratio LETE/WITE = 1.29.
Variation: Body sizes: length 2.8-2.9 mm, width 1.6-1.7 mm. Paratypes agrees with holotype in all other characters, including shape and body colouration.

Type material. Holotype, ♀, **China**: Hubei, road Badong-Yesanguan,Tiechanghuhang, 30.75N, 110.03E, 1300 m, 27-28 Jun 2003, J. Turna lgt (NMPC). Paratypes: same data as holotype, 2 ♂♂ (NMPC, CAR).

Distribution. **EPA**: HUB.
M. pseudochinensis sp. n. is only known from the above cited type locality in central China, Hubei Province.

Chorotype. Central Chinese.

Host-plants. No insect-host plant information available. Probably associated at larval stage with flowers of a native Chinese middle altitude *Rosa* sp. or to other Rosaceae.

Habitat. Middle altitude areas at forest margins; collected at 1300 m.

Phenology. **VI**. Probably active in Spring-Summer.

DNA data. Not available.

Name derivation. Named for its external morphology closely paralleling the related *M. chinensis*.

Taxonomic remarks. This species, member of the *M. chinensis*-complex, seems to be allopatric with *M. chinensis* in middle-altitude areas of N Central China. A female specimen was expressly selected as holotype, due to the peculiar shape of the distal apex of its ovipositor.

37. *Meligethes brassicogethoides* sp. n.

Type locality. China, Yunnan, Yulong Mts., 27.10N, 100.13E.

Diagnosis. This species is diagnosed by its peculiarly oblong oval body, elytra markedly longer than their combined width [superficially recalling the typically elongate body shape and brightness of several members of the sister genus *Brassicogethes* Audisio and Cline, 2009, chiefly the European *B. matronalis* (Audisio & Spornraft, 1990)], by the smooth and shining dorsal surface of elytra combined with slightly duller surface of pronotum, and by the dark-brown coloration of body, with paler (pale brown) legs and second antennomere. The shape of the apical portion of the ovipositor is also quite distinctive from the related *M. chinensis* and *M. occultus* sp. n.

Description (♀ holotype)
Size: length 3.1 mm, width 1.5 mm.
Body color and pubescence: dark-brown, legs pale brown, antennae dark-brown with markedly paler second antennomere (Fig. 21 f). Pubescence normal, recumbent, whitish.
Dorsal habitus: Body peculiarly elongate (Fig. 21 f); anterior margin of clypeus subtruncate, impression between frons and clypeus not developed. Pronotum markedly transverse (ratio WPR1/LPR1 = 1.90; ratio WPR2/LPR1 = 1.79; ratio WPR2/WPR1 = 0.90), its base distinctly narrower than the base of elytra, and markedly narrowed from posterior base towards anterior angles. Elytra markedly longer than their combined width, displaying ratio LELY/WELY = 1.13; ratio LPR1/LELY = 0.43; ratio WPR1/WPRA = 1.68; WPR1/WELY = 0.91; ratio WPR2/WELY = 0.86.
Punctures of head and pronotum almost as large as eye-facets, and separated by slightly less than one diameter; punctures of elytra slightly finer, separated by little more than one diameter; interspaces smooth and shining on head and elytra, slightly duller on pronotum, the latter showing faint traces of microreticulation.
Ventral habitus: Metaventrite behind its midlength almost flat, only with almost indistinct mediolongitudinal line.
Appendages: Antennae relatively short (Fig. 21 f), ratio ANLE/HWEA = 0.76; ratio CLLE/W10J = 1.25; ratio L03J/W03J ≈ 2.4; ratio L03J/L02J = 0.85; ratio L03J/L04J = 1.6. Protibiae (Fig. 21 f) peculiarly long and weak, minutely toothed, ratio LETI/WITI ≈ 3.9 , ratio WFTA/LFTA ≈ 0.24 (female); ratio LPTI/WPTI ≈ 3.7.
Male genitalia: unknown.
Female genitalia (ovipositor): large and peculiarly shaped, with narrow, nearly parallel-sided bluntly acute combined tips of the gonocoxites (Fig. 16 h); ratio GONL/CGOW ≈ 1.4; styli well developed and slender, inserted far from apex; ratio STLE/DSIA ≈ 0.35; ratio STLE/CGOW ≈ 0.07; sides of the tip just behind styli gently widened; basal portion of Gonocoxites transverse, almost straight, their outer vertices blunt; ratio OVPL/GONL ≈ 2.50.

Variation. Length 3.1-3.3 mm, width 1.5-1.6 mm. ratio LELY/WELY= 1.10-1.13; ratio LPR1/LELY= 0.43-0.46; ratio WPR1/WPRA= 1.60-1.68; ratio WPR1/WELY= 0.89-0.91.

Material examined. **CHINA**: ♀ holotype, Yunnan, Yulong Mts., 27.10N, 100.13E, 3900 m, 16-19 Jun 1993, Bolm lgt (NMPC). Paratype: same data as holotype, 1 ♀ (CAR).

Distribution. **EPA**: YUN.

Chorotype. SW Chinese.

Host-plants. Unknown.

Habitat. Edges of high altitude forest habitats. Collected at 3900 m.

Phenology. **VI**. Probably active in Spring-Summer.

DNA data. Not available.

Name derivation. Named for its peculiarly long body shape, recalling certain members of the related sister-genus *Brassicogethes* Audisio & Cline, 2009 (Audisio et al. 2001a).

Taxonomic remarks. This new species is sympatric and syntopic with the widespread *Meligethes chinensis* Kirejtshuk, 1979, but it is easily distinguishable by the more elongate body shape, the finer, closer, and slightly duller pronotal punctuation, and the quite distinct shape of the ovipositor. The same characters also distinguish it from the related *M. occultus* sp. n. and *M. henan* sp. n., the former representing the likely sister species of *M. brassicogethoides* sp. n.

38. *Meligethes occultus* sp. n.

Type locality. China, Yunnan, Jizu Mts., 25.58N, 100.21E.

Diagnosis. This species is diagnosed by its oblong oval body, similar to *M. brassicogethoides* sp. n., but smaller, elytra slightly shorter, and ovipositor much smaller and very peculiarly shaped distad, with minute V-shaped excision formed by the combined tips of the gonocoxites, unique in members of the subgenus *Odonthogethes* (except in the quite distinct *M. shirakii* S. Hisamatsu, where otherwise the distal excision is much deeper and wider). Probably closely related also to *M. schuelkei* sp. n. from Sichuan and Shaanxi, which exhibits a similar body shape and a relatively similar ovipositor.

Description (♀ holotype)
Size: length 2.7 mm, width 1.4 mm.
Body color and pubescence: dark-brown, legs pale brown, antennae dark-brown with markedly paler second antennomere (Fig. 21 d). Pubescence normal, recumbent, whitish.
Dorsal habitus: Body rather elongate, oval (Fig. 21 d); anterior margin of clypeus subtruncate, impression between frons and clypeus not developed. Pronotum markedly transverse (ratio WPR1/LPR1 =1.88; ratio WPR2/LPR1= 1.75), its base distinctly narrower than the base of elytra (ratio WPR1/WELY = 0.88). Elytra as long as their combined width, displaying ratio LELY/WELY = 1.00; punctures of head, pronotum and elytra almost as large as eye-facets, separated by nearly one diameter; interspaces smooth and shining on head, pronotum, and elytra, without traces of microretuculation. Ratio LPR1/LELY = 0.48; ratio WPR2/WPR1 = 0.93; ratio WPR1/WPRA= 1.73; ratio WPR2/WELY= 0.82.
Ventral habitus: Metaventrite behind its midlength almost flat, only with almost indistinct mediolongitudinal line.
Appendages: Antennae relatively short (Fig. 21 d), ratio ANLE/HWEA = 0.78; ratio CLLE/W10J = 1.25; ratio L03J/W03J ≈ 2.5; ratio L03J/L02J ≈ 1.0; ratio L03J/L04J = 2.4. Protibiae (Fig. 21 d) long and weak, ratio LETI/WITI = 3.8; ratio WFTA/LFTA = 0.26 (female). Ratio LPTI/WPTI ≈ 3.9.
Male genitalia: unknown.
Female genitalia (ovipositor): small and peculiarly shaped, with minute V-shaped excision formed by the combined acute tips of the gonocoxites (Fig. 16 k); ratio GONL/CGOW ≈ 1.4; styli small and slender with long sensorial hairs, inserted far from apex; ratio STLE/DSIA ≈ 0.4; ratio STLE/CGOW ≈ 0.07; sides of the tip just behind styli markedly projected outwards; outer basal vertices of gonocoxites obliquely truncate; basal portion of gonocoxites slightly directed proximad; ratio OVPL/GONL ≈ 2.50.

Type Material. **China**: ♀ holotype, Yunnan, Jizu Mts., 25.58N, 100.21E, 2800 m, 30 May-3 Jun 1993, Bolm lgt (NMPC).

Distribution. **EPA**: YUN.

Chorotype. SW Chinese.

Host-plants. Unknown.

Habitat. Edges of high altitude forest habitats. Collected at 2800 m.

Phenology. **VI**. Probably active in Spring-Summer.

DNA data. Not available.

Name derivation. From the Latin *occultus* (= hidden), so named for its unexpected discovery among a series of isolated and problematic ♀♀ of *Meligethes* spp. cfr. *chinensis*, dissected only in the final phase of the preparation of the present paper.

Taxonomic remarks. This new species is sympatric with both *M. brassicogethoides* sp. n., and with the widespread *Meligethes chinensis* Kirejtshuk, and ecological relationships between these three related taxa could be explored as soon as biological data on their larval host-plants are available. True relationships with the closely related and apparently allopatric *M. schuelkei* sp. n. from Sichuan and Shaanxi are difficult to ascertain pending the availability of a ♂ specimen.

39. *Meligethes schuelkei* sp. n.

Type locality. China, Sichuan, Daxue Mts., W of Kangding.

Diagnosis. This species is diagnosed by its moderately oblong, oval, convex and shining body, similar to *M. occultus* sp. n. [also vaguely recalling in body shape certain members of the unrelated genus *Lamiogethes* Audisio & Cline, 2009, chiefly the widespread European *L. brunnicornis* (Sturm, 1845)], but with larger ovipositor, gonocoxites not separate distad, then without minute V-shaped excision formed by the combined tips of the gonocoxites, and characteristic male genitalia (male of *M. occultus* sp. n. unknown).

Description (♂ holotype)
Size: length 2.8 mm, width 1.5 mm.
Body color and pubescence: dark-brown, legs pale brown, antennae dark-brown with markedly paler second antennomere (Fig. 21 e). Pubescence normal, recumbent, whitish.
Dorsal habitus: Body rather elongate, oval (Fig. 21 e); anterior margin of clypeus subtruncate, impression between frons and clypeus not developed. Pronotum markedly transverse (ratio WPR1/LPR1 =1.80; ratio WPR2/LPR1= 1.84), its base distinctly narrower than the base of

elytra (ratio WPR1/WELY = 0.90). Elytra as long as their combined width, displaying ratio LELY/WELY = 1.00; punctures of head, pronotum and elytra almost as large as eye-facets, separated by nearly one diameter; interspaces smooth and shining on head, pronotum, and elytra, without traces of microretuculation. Ratio LPR1/LELY = 0.50; ratio WPR2/WPR1 = 1.01; ratio WPR1/WPRA= 1.58; ratio WPR2/WELY= 0.91.
Ventral habitus: Metaventrite behind its midlength with shallow distinct impression.
Appendages: Antennae relatively short (Fig. 21 e); ratio ANLE/HWEA = 0.78; ratio CLLE/W10J = 1.24; ratio L03J/W03J ≈ 2.5; ratio L03J/L02J ≈ 1.0; ratio L03J/L04J = 2.4. Protibiae (Fig. 21 e) rather robust, ratio LETI/WITI = 3.3; ratio WFTA/LFTA = 0.33. Ratio LPTI/WPTI ≈ 3.5.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 10 l-m), characterized by subparallel-sided and relatively long aedeagus, widest at disal fifth, ratio LEAE/WIAE = 1.98, and ratio WIAE/BWAE ≈ 1.12, rather abruptly narrowed distad, with aedeagal apex narrowly incised medially. Tegmen rather parallel-sided in proximal three/fourths (widest at distal two thirds, with bluntly rounded distal tips of each parameron), its medial distal excision rather deep, U-shaped (ratio DTIN/LETE ≈ 0.36), its inner margins without projection; ratio LETE/WITE = 1.27.
Female: Pygidium as in male. Metaventrite behind its midlength almost flat, only with almost indistinct mediolongitudinal line. Protarsal plates and protibiae slightly narrower and weaker than in male.
Female genitalia (ovipositor): moderately large and peculiarly shaped (Fig. 17 k); ratio GONL/CGOW ≈ 1.2; styli small and slender with moderately long sensorial hairs, inserted far from apex; ratio STLE/DSIA ≈ 0.4; ratio STLE/CGOW ≈ 0.07; sides of the tip just behind styli distinctly projected outwards; outer basal vertices of gonocoxites obliquely truncate; basal portion of gonocoxites slightly directed proximad; ratio OVPL/GONL ≈ 2.50.

Type Material. ♂ holotype, **China**: Sichuan, Daxue Shan [Daxue Mts.], W of Kangding, 30.03.13N, 101.57.11E, 2700-2800 m, 24 May 1997, M. Schülke lgt (NMPC). Other examined material: **China**: Shaanxi Province, Qing Ling Mts., road between Baoji and Taibai, pass 35 Km S of Baoji, 21-23 Jun 1998, O. Šafránek & M. Trýzna lgt, 1 ♀ (CAR). The single ♀ was prudentially not included in the type series, although its specific identity with the ♂ holotype is very likely.

Distribution. **EPA**: SCH, SHA.

Chorotype. Central Chinese.

Host-plants. Unknown.

Habitat. Edges of high altitude forest habitats. Collected at 2800 m.

Phenology. **V**. Probably active in Spring-Summer.

DNA data. Not available.

Name derivation. From the name of the collector of the ♂ holotype.

Taxonomic remarks. This new species is closely related to *M. occultus* sp. n., whose ♂ is thus far unknown. Female genitalia of these two species are otherwise amply distinct, and leave no doubt about their specific identity.

40. *Meligethes nigroaeneus* sp. n.

Type locality. China, Yunnan, near Dali, Cang Mts. (= Cang Shan).

Diagnosis. This species differs from *M. brassicogethoides* sp. n. in markedly shorter elytra (ratio LELY/WELY = 1.02-1.05), more widely explanate sides of pronotum (as wide or wider than lateral rim) and sides of elytra with traces of transverse strigosities, slightly concave anterior margin of clypeus, and by the quite distinct male and female genitalia. It also differs from *M. luteoornatus* sp. n. in narrower and relatively darker (nut-brown) streep bordering sides of pronotum and in the quite distinct male and female genitalia, the ovipositor characterized by nearly transverse basal portions of gonocoxites, whose outer apices are rather acute.

Description (♂ holotype)
Size: Length 2.8 mm, width 1.5 mm.
Body color and pubescence: Dorsal and ventral surface black with faint metallic hues; pronotum with narrowly explanate sides brown; legs dark brown, protibiae and all tarsi nut-brown, antennae brown-black, second antennomere yellowish-brown. Pubescence fine, relatively short, yellowish to rusty (Fig. 21 e).
Dorsal habitus: Body elongate (Fig. 21 e); anterior margin of clypeus broadly shallowly concave, impression between frons and clypeus not developed. Pronotum markedly transverse (ratio WPR1/LPR1 = 2.00; ratio WPR2/LPR1 = 1.96; ratio WPR2/WPR1 = 0.96), its base slightly narrower than the base of elytra, and slightly narrowed from posterior base towards anterior angles; ratio WPR1/WPRA = 1.64. Elytra nearly as long as their combined width, displaying ratio LELY/WELY = 1.02; ratio LPR1/LELY = 0.44; ratio WPR1/WELY = 0.93; ratio WPR2/WELY = 0.88. Punctures of head and pronotum nearly as large as eye-facets, rather shallow, separated by little more than one diameter, slightly shallower and more sparse on elytra; interspaces smooth and shining on head, pronotum and elytra, without traces of microreticulation. Faint traces of transverse strigosity present on elytral sides. Pygidium obtusely and widely rounded at apex (Fig. 21 e).

Ventral habitus: Blunt mediolongitudinal carina of mesoventrite nearly reaching its posterior margin. Metaventrite with broadly impressed mediolongitudinal line behind its midlength.
Appendages: Antennae short, with relatively large club (Fig. 21 e), ratio ANLE/HWEA = 0.70; ratio CLLE/W10J = 1.20; ratio L03J/W03J ≈ 2.3; ratio L03J/L02J ≈ 0.85; ratio L03J/L04J = 1.5. Protibiae (Fig. 21 e) long and weak, minutely toothed, ratio LETI/WITI ≈ 3.8, protarsi relatively narrow, ratio WFTA/LFTA ≈ 0.27; ratio LPTI/WPTI ≈ 3.8.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 11 l-m), characterized by subparallel-sided and moderately long aedeagus, ratio LEAE/WIAE = 1.80, and ratio WIAE/BWAE ≈ 1.11, gently and shortly narrowed distad, with bluntly pointed aedeagal apex. Tegmen rather parallel-sided in proximal two/thirds (widest near the middle), its medial distal excision rather deep, widely U-shaped (ratio DTIN/LETE ≈ 0.28), its inner margins without projection; ratio LETE/WITE = 1.37. Main sclerites of internal sac (endophallus), long and narrow, sinuately rod-shaped in both dorsal and lateral view.
Female: Metaventrite behind its with more shallowly impressed mediolongitudinal line. Protarsal plates and protibiae slightly narrower than in males; ratio WFTA/LFTA ≈ 0.25; LETI/WITI ≈ 4.00.
Female genitalia (ovipositor): moderately large, with narrow and acute combined tips of the gonocoxites (Fig. 16 e); ratio GONL/CGOW ≈ 1.7; styli rather long and slender, inserted far from apex; ratio STLE/DSIA ≈ 0.35; ratio STLE/CGOW ≈ 0.09; sides of the tip just behind styli slightly widened; basal portion of gonocoxites transverse to slightly directed proximad, their outer corners rather narrowly pointed; ratio OVPL/GONL ≈ 2.15.

Variation. Length 2.7-2.9 mm, width 1.4-1.5 mm. Body colour scarcely variable. Ratio LELY/WELY= 1.02-1.05.

Material examined. Holotype, ♂, **China**: Yunnan, near Dali, Cang Mts. (= Cang Shan), 3500-3700 m, 25.41.06N, 100.06.13E, forest trail, 6 Jun 2002, A. Konstantinov & M. Volkovich lgt (CAS). Paratype: same data as holotype, 1 ♂, 4 ♀♀ (CAS, NMPC, CAR).

Distribution. **EPA**: YUN.

Chorotype. SW Chinese.

Host-plants. Unknown.

Habitat. Edges of high altitude forest habitats. Collected between 3500 and 3700 m. This new species was collected in syntopic condition with the not closely related *M. (Meligethes) volkovichi* sp. n., while the sister species *M. (Odonthogethes) luteoornatus* sp. n. was collected in the same mountain area, but in a different, very close, locality.

Phenology. **VI**. Probably active in late Spring-Summer.

DNA data. Not available.

Name derivation. Named from the Latin *niger, nigra, nigrum* (= black) and *aeneus* (= cupric-green), for its dark black dorsal coloration with faint metallic reflections.

41. *Meligethes luteoornatus* sp. n.

Type locality. China, Yunnan, near Dali, Cang Mts. (= Cang Shan), 25.41.21N, 100.06.12E.

Diagnosis. From *M. brassicogethoides* sp. n. differs in shorter elytra (LELY/WELY= 1.05-1.06), more widely explanate and narrowly paler (yellowish orange) sides of pronotum (as wide or wider than lateral rim) and sides of elytra with traces of trasverse strigosities. It also differs from the sister species *M. nigroaeneus* sp. n. in wider and lighter orange streep bordering sides of pronotum, slightly wider protarsal plates, and in the quite distinct male and female genitalia, the ovipositor with basal portions of gonocoxites markedly oriented proximad.

Description (♂ holotype)
Size: Length 2.8 mm, width 1.5 mm.
Body color and pubescence: Dorsal and ventral surface black with faint bronze hues; pronotum with rather widely explanate sides orange; legs dark brown, protibiae and all tarsi nut-brown, antennae brown-black, second antennomere yellowish-brown. Pubescence fine, relatively short, yellowish to rusty (Fig. 21 g).
Dorsal habitus: Body elongate (Fig. 21 g); anterior margin of clypeus subtruncate, only very shallowly concave, impression between frons and clypeus not developed. Pronotum markedly transverse (ratio WPR1/LPR1 = 2.00; ratio WPR2/LPR1 = 1.92; ratio WPR2/WPR1 = 0.96), its base slightly narrower than the base of elytra, and slightly narrowed from posterior base towards anterior angles; ratio WPR1/WPRA = 1.66. Elytra nearly as long as their combined width, displaying ratio LELY/WELY = 1.05; ratio LPR1/LELY = 0.42; ratio WPR1/WELY = 0.88; ratio WPR2/WELY= 0.84.
Punctures of head and pronotum nearly as large as eye-facets, rather shallow, separated by little more than one diameter, slightly shallower and more sparse on elytra; interspaces smooth and shining on head, pronotum and elytra, without traces of microreticulation. Faint traces of transverse strigosity present on elytral sides. Pygidium obtusely and widely rounded at apex (Fig. 21 g).
Ventral habitus: Blunt mediolongitudinal carina of mesoventrite nearly reaching its posterior margin. Metaventrite with broadly impressed mediolongitudinal line behind its midlength.
Appendages: Antennae short, with relatively large club

(Fig. 21 g), ratio ANLE/HWEA = 0.70; ratio CLLE/W10J = 1.20; ratio L03J/W03J ≈ 2.3; ratio L03J/L02J ≈ 0.85; ratio L03J/L04J = 1.5. Protibiae (Fig. 21 g) long and weak, minutely toothed, ratio LETI/WITI ≈ 3.7, protarsi relatively narrow, ratio WFTA/LFTA ≈ 0.30; ratio LPTI/WPTI ≈ 3.8.

Male genitalia: shape of both tegmen and aedeagus as figured (Figs 12 e-f), characterized by elongate aedeagus, ratio LEAE/WIAE = 2.03, and ratio WIAE/BWAE ≈ 1.15, abruptly and shortly narrowed distad, with truncate aedeagal apex and a distinct pre-distal sinuosity on each side. Tegmen rather parallel-sided in proximal two/thirds (widest near the middle), its medial distal excision rather deep, widely U-shaped (ratio DTIN/LETE ≈ 0.32), its inner margins without projection, tips of paramera truncately rounded; ratio LETE/WITE = 1.43. Main sclerites of internal sac (endophallus), long and narrow, sinuately rod-shaped in both dorsal and lateral view.

Female: Metaventrite behind its midlength with more shallowly impressed mediolongitudinal line. Protarsal plates and protibiae slightly narrower than in males; ratio WFTA/LFTA ≈ 0.27; LETI/WITI ≈ 3.9.

Female genitalia (ovipositor): moderately large, with narrow and acute combined tips of the gonocoxites (Fig. 16 f); ratio GONL/CGOW ≈ 1.7; styli rather long and slender, inserted far from apex; ratio STLE/DSIA ≈ 0.36; ratio STLE/CGOW ≈ 0.09; sides of the tip just behind styli slightly widened; basal portion of gonocoxites markedly

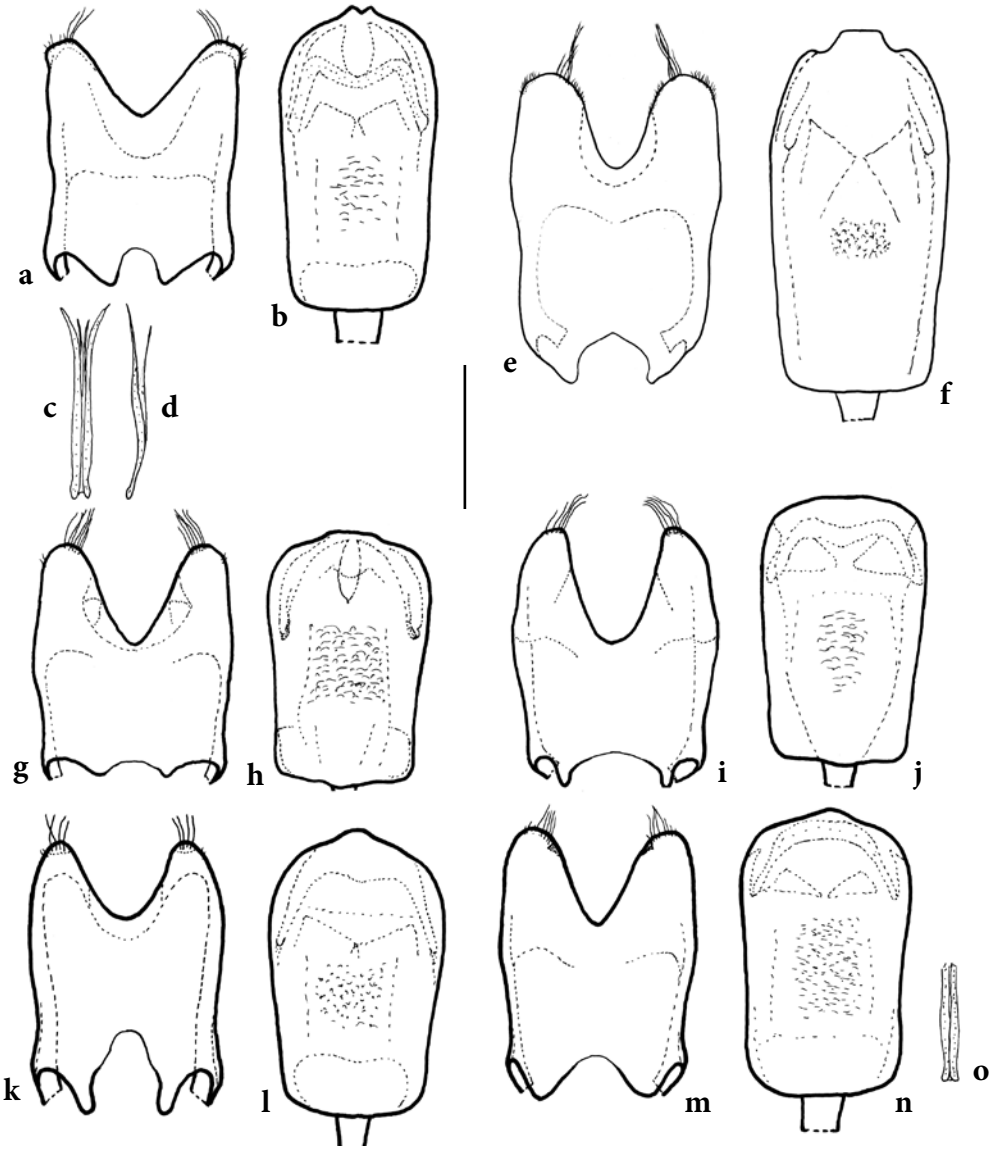

Fig. 12 − Male genitalia of *Meligethes* spp. (**a**, **e**, **g**, **i**, **k**, **m**, tegmen, dorsal view; **b**, **f**, **h**, **j**, **l**, **n**, median lobe of the aedeagus, dorsal view; **c**, **o**, main sclerites of the aedeagus, dorsal view; **d**, main sclerite of the aedeagus, lateral view): **a**, **b**, **c**, **d**, *M. simulator* sp. n.; **e**, **f**, *M. luteoornatus* sp. n.; **g**, **h**, *M. pectoralis* Rebmann, 1956; **i**, **j**, *M. lloydi* Easton, 1968; **k**, **l**, *M. pseudopectoralis* sp. n.; **m**, **n**, **o**, *M. sadanarii* S.-T. Hisamatsu, 2009. Scale bar: 0.2 mm.

directed proximad, their outer corners rather obliquely and bluntly rounded; ratio OVPL/GONL ≈ 2.30.

Variation. 2.7-2.9 mm, width 1.5-1.6 mm. Body colour scarcely variable. Ratio LELY/WELY= 1.05-1.06.

Material examined. Holotype, ♂, **China**: Yunnan, near Dali, Cang Mts. (= Cang Shan), 3100 m, 25.41.21N, 100.06.12E, 21 May 2002, A. Konstantinov & M. Volkovich lgt (CAS). Paratypes: same data as holotype, 2 ♀♀ (NMPC, CAR).

Distribution. **EPA**: YUN.

Chorotype. SW Chinese.

Host-plants. Unknown.

Habitat. Edges of high altitude forest habitats. Collected around 3100 m. This new species was collected, in the same mountain area (but not exactly in the same locality), in company of its sister species *M. (Odonthogethes) nigroaeneus* sp. n. and of the not closely related *M. (Meligethes) volkovichi* sp. n.

Phenology. **V**. Probably active in late Spring-Summer.

DNA data. Not available.

Name derivation. Named from the Latin *luteus* (= egg yolk) and *ornatus* (= decorated), for its dark black dorsal coloration combined with flattened, orange-yellowish pronotal sides.

42. *Meligethes simulator* sp. n.

Type locality. China, Shaanxi, Qing Ling Mts., village of Hou Zen Zi.

Diagnosis. This species, vaguely similar to other members of the *M. chinensis* species-complex, is easily diagnosed by its elongate yellowish-brown and shining body, the elytra exhibiting an infuscate (brown) and vaguely defined darker area on proximal fifth, with darker scutellum and proximal third of the head, and by the quite distinct and peculiarly shaped male and female genitalia. Ovipositor of this species is similar to that of *M. pallidoleytrorum* from Sichuan, which otherwise strongly differs in the shape of male genitalia.

Description (♂ holotype)
Size: length 2.8 mm, width 1.4 mm.
Body color and pubescence: body yellowish-pale brown and shining, the elytra exhibiting an infuscate (brown) and vaguely defined darker area on proximal fifth, with darker scutellum and proximal third of the head (Fig. 22 a). Legs and antennae yellowish. Pubescence normal, recumbent, whitish-golden.
Dorsal habitus: Body elongate (Fig. 22 a); anterior margin of clypeus truncate, impression between frons and clypeus not developed. Pronotum markedly transverse (ratio WPR1/LPR1 =1.80; ratio WPR2/LPR1 = 1.75; ratio WPR2/WPR1 = 0.97), its base slightly narrower than the base of elytra, and slightly narrowed from posterior base towards anterior angles; ratio WPR1/WPRA = 1.46. Elytra slightly longer than their combined width, displaying ratio LELY/WELY = 1.03; ratio LPR1/LELY = 0.53; WPR1/WELY = 0.97; ratio WPR2/WELY = 0.93.
Punctures of head and pronotum slightly larger than eyefacets, relatively deep and coarse on head and pronotum, slightly shallower on elytra, and separated by slightly less than one diameter; interspaces smooth and shining on head, pronotum and elytra, without traces of microreticulation. Pygidium obtusely but narrowly rounded at apex (Fig. 22 a).
Ventral habitus: Metaventrite behind its midlength with moderately concave impression, and distinct mediolongitudinal line.
Appendages: Antennae short, with small club (Fig. 22 a), ratio ANLE/HWEA = 0.70; ratio CLLE/W10J = 1.11; ratio L03J/W03J ≈ 2.6; ratio L03J/L02J = 1.00; ratio L03J/L04J = 2.0. Protibiae (Fig. 22 a) long and weak, minutely toothed, ratio LETI/WITI ≈ 3.8, protarsi relatively narrow, ratio WFTA/LFTA ≈ 0.27; ratio LPTI/WPTI ≈ 4.0.
Male genitalia: shape of both tegmen and aedeagus as figured (Figs 12 a-b), characterized by subparallel-sided and long aedeagus, ratio LEAE/WIAE = 1.94, and ratio WIAE/BWAE ≈ 1.14, gently and shortly narrowed distad, with aedeagal apex narrowly incised medially. Tegmen rather parallel-sided in proximal three/fourths (widest at distal apex, with outer tips of each parameron moderately protruded outwards), its medial distal excision rather deep, very widely V-shaped (ratio DTIN/LETE ≈ 0.33), its inner margins without projection; ratio LETE/WITE = 1.23. Main sclerites of internal sac (endophallus), peculiarly long and narrow, sinuately rod-shaped in both dorsal and lateral view (Figs 12 c-d).
Female: Pygidium more truncately and widely rounded at apex than in males. Metaventrite behind its midlength almost flat, only with almost indistinct mediolongitudinal line. Protarsal plates and protibiae slightly narrower than in males; ratio WFTA/LFTA = 0.25; LETI/WITI = 4.30.
Female genitalia (ovipositor): moderately large and peculiarly shaped, with narrow, pagoda-shaped acute combined tips of the gonocoxites (Fig. 16 j); ratio GONL/CGOW ≈ 1.4; styli rather short and slender, inserted far from apex; ratio STLE/DSIA ≈ 0.26; ratio STLE/CGOW ≈ 0.06; sides of the tip just behind styli gently widened, and forming an abrupt angular projection; basal portion of gonocoxites markedly directed proximad, their outer corners rather narrowly rounded; ratio OVPL/GONL ≈ 2.60.

Variation: length 2.8-3.1 mm, width 1.4-1.5 mm. Body colour rather variable, both paratypes being characterized by infuscate (brown) elytra with a large yellowish discal and circum-scutellar spot, and slightly darker, infuscate pronotal discal area and head. Ratio LELY/WELY = 1.03-1.05.

Material examined. ♂ holotype, **China**: Shaanxi, Qing Ling Mts., village of Hou Zen Zi, 30 Km SE of Taibai Shan, 1500 m, 26 Jun 1998, O. Šafránek and M. Trýzna lgt (NMPC). Paratypes: **China**: Shaanxi, Taiban Mts. (= Taibashan), N of Haozhenzi, 1600 m, 30 Jul 1998, S.V. Murzin lgt, 1 ♀ (NMPC); Gansu, Zhugqu county, near Dahe, 2522 m, 33.52.48N, 103.54.20E, [day, month and year of collecting missing on the original label], I.A. Belousov & I.I. Kabak lgt, 1 ♂ (CAR).

Distribution. **EPA**: SHA, GAN.

Chorotype. Central Chinese.

Host-plants. Unknown.

Habitat. Edges of middle altitude forest habitats. Collected between 1500 and 2500 m.

Phenology. **VI-VII**. Probably active in late Spring-Summer.

DNA data. Not available.

Name derivation. Named from the Latin *simulator* (= pretender), for its peculiar pale, yellowish-brown dorsal coloration and elongate body, superficially recalling shape, color and size of certain Oriental and E Palaearctic members of the Epuraeainae genus *Epuraea* Erichson, subg. *Micruria* Reitter, 1875 (see Kirejtshuk 1998).

Taxonomic remarks. This new species occupies a quite isolated position among other members of the *M. chinensis* species-complex. However, the similar shape of the ovipositor and body colouration should suggest close relationships with *M. pallidoelytrorum* Chen & Kirejtshuk from Sichuan, which however, according to the Chen et al. (2013) drawings and photos, exhibits markedly different shape of male genitalia and less elongate body.

43. *Meligethes pallidoelytrorum* Chen & Kirejtshuk, 2013

Meligethes pallidoelytrorum Chen & Kirejtshuk, in Chen, Kirejtshuk & Huan, 2013: 39

Type locality. China: Sichuan, Nanping, Jiuzhaigou.

Holotypus. IZAS.

Diagnosis. This species can be characterized by its truncate anterior margin of clypeus, usually contrastingly bicolored and slender body (dorsal surface rather shining with clear bronze luster, and diffuse and sparse punctation), yellowish-brown with narrow transparent lateral margins of pronotum, discal elytral portion and legs pale yellowish; metaventrite and abdominal sternites dark brown; dorsum with fine and rather conspicuous yellowish golden hairs. Male genitalia with moderately elongate aedeagus, bluntly pointed distad, and peculiarly shaped ovipositor.

Description. See for details the recently published description by Chen et al. (2013). Length: 2.2-3.3 mm.
Male genitalia: Figs 13 l-m.
Female genitalia: Fig. 16 l.

Distribution. **EPA**: SCH.
Only known from Sichuan.

Chorotype. Central Sinic.

Host-plants. Unknown.

Habitat. Edges of high altitude forested areas, between 2300 and 3900 m.

Phenology. IX. Probably all known specimens were collected at the beginning of September. The holotype was indicated by Chen et al. (2013) as collected in November (XI), perhaps due to a printing mistake (XI instead of IX).

DNA data. Not available.

Taxonomic remarks. As evident from its original description, this species is quite variable in shape, size, and color, although the large pale yellowish elytral spots and semi-transparent pronotal sides seem to be constant characters. This species exhibits not completely clear phylogenetic relationships; obviously a member ot the subgenus *Odontogethes*, with male genitalia similar to that of *M. nigroaeneus* sp. n. in the *M. chinensis* group, but with a quite distinct ovipositor, similar to that known to occur in the more isolated *M. simulator* sp. n., and *M. occultus* sp. n., described above.

2.4. The *Meligethes pectoralis*-group

Members of this species-group combine oval and convex bicolored body (black with head, pronotum and appendages orange: Figs 22 b-d), dorsum smooth and shining without traces of reticulation, strongly dentate tarsal claws, flat and comparatively broad prosternal process with maximum width ≈ combined length of antennomeres 3-5, and comparatively short aedeagus (ratio LEAE/WIAE = 1.58-1.80) widest at distal third and narrowly rounded or bluntly

pointed (never distinctly truncate) apically. Anterior margin of clypeus as a rule truncate (but distinctly arcuately emarginate in *M. pseudopectoralis* sp. n.), elytra as a rule black and diffusely punctate without traces of transverse strigosities (only in *M. pectoralis* elytra with punctures distinctly transversely arranged and with feeble blue metallic lustre). As far as known, species of this group occur in southwestern China (Yunnan) and eastern Himalaya (*M. lloydi, M. pseudopectoralis* sp. n.) or in southeastern China and Taiwan (*M. pectoralis, M. sadanarii*). Host plant not known with certainty for any species of this group.

44. *Meligethes pectoralis* Rebmann, 1956

Meligethes pectoralis Rebmann, 1956a: 47

Type locality. China, Fujian [= Fujien, = Fukien], Kuatun.

Holotype. SMF

Diagnosis. The species can be characterized by its contrastingly bicolored body (head and prothorax orange, elytra and the rest of ventral surface black), truncate anterior margin of clypeus, elytra with distinct blue lustre and punctures arranged in distinct transverse series. In addition, *M. pectoralis* is characterized by finer and markedly denser dorsal punctuation than in related species sharing a similar, characteristic bicolored body (blackish with reddish head and pronotum). Male genitalia with more or less elongate aedeagus, characteristically subtruncate distad.

Description

Size: length 2.7-3.0 mm, width 1.5-1.8 mm.

Body color and pubescence: Head, pronotum, prosternum and, at least partly, also mesoventrite orange, legs and antennae brown-yellow, metasternum black, abdomen black-brown. Elytra black with blue metallic lustre . Pubescence with long recumbent setae, yellowish to brownish.

Dorsal habitus: Body oval, moderately convex (Fig. 22 b). Ratio (LPR1/LELY = 0.52-0.63; ratio WPR1/LPR1 = 1.69-1.81; ratio WPR2/LPR1 = 1.73-1.84; ratio WPR2/WPR1 = 1.01-1.03; ratio WPR1/WELY = 0.89-0.83; ratio LELY/WELY =. 0.83-0.99; ratio WPR1/WPRA = 1.64-1.78; ratio WPR2/WELY = 0.91-0.96); Anterior margin of clypeus truncate. Posterior pronotal angles obtuse, not prominent; explanate sides of pronotum nearly as wide as antennal flagellum, gradually narrowed posteriorly. Frons flat with pair of faint impression between antennal insertions. Punctures of frons and pronotum nearly equal in size to eye-facets, separated by about one diameter (pronotum) or less (frons). Interspaces smooth and shining. Punctures of elytra smaller, distinctly transversely strigose, interspaces smooth.

Ventral habitus: Hypomera concave, impunctate, obsoletely microscopically reticulate. Prosternal process spindle-shaped, bluntly pointed apically. Mediolongitudinal carina on mesoventrite reaching its posterir margin. Metaventrite in male broadly and deeply impressed behind its midlength with narrow impunctate mediolongitudinal stripe, in female flattened at posterior intercoxal margin with irregular faintly impressed mediolongitudinal line.

Appendages: antennae (Fig. 22 b) displaying ratio ANLE/HWEA = 0.75-0.77, antennal club broadly oval, displaying ratio CLLE/ANLE = 0.25-0.33, ratio CLLE/W10J = 1.25-1.33.

Protibiae (Fig. 22 b) comparatively slender, exhibiting ratio LETI/WITI = 3.28-3.36, their outer margin with several larger teeth in distal portion. Protarsal plates comparatively wider in males (ratio WFTA/LFTA ≈ 0.27) than in females (ratio WFTA/LFTA ≥ 0.25).

Male genitalia: Tegmen (Fig. 12 g) widest at its midlength, LETE/WITE = 1.20-1.29, tegminal incision narrowly rounded at its bottom, DTIN/LETE ≈ 0.36. Lateral lobes obliquely truncate apically, with maximum length at inner margin. Aedeagus (Fig. 12 h) moderately elongate, widest at distal third, LEAE/WIAE = 1.60-1.80; sides rounded in distal half, with short truncately-rounded apical protuberance.

Female genitalia (*ovipositor*): distal apex as figured (Fig. 17 a). Apex pointed, moderately long styli inserted nearly twice their length behind apex (ratio STLE/DSIA = 0.45-0.50; ratio STLE/CGOW ≈ 0.08). Gonocoxites comparatively short, exhibiting ratio OVPL/GONL = 2.4-2.6; ratio GONL/CGOW = 1.26-1.35; their basal margins feebly concave, broaly diverging proximad.

Variation: this species does not display any remarkable variation except for its body size.

Material examined. **China**: SE Hubei, Mufu Shan, Jiugongshan, 29.4N, 1114.7E, 9-10 Jun 2005, J. Turna lgt, 1 specimen (NMPC); E Fujian, Shiniushan, 25.38N, 118.30E, 1350 m, 1-2 May 2008, J. Turna lgt, 1 specimen (NMPC); Zhejiang, Anji County, Long Wang Shan N.R., ca. 1900 m, 13 May 1996, J. Cooter lgt, 3 ♂♂, 4 ♀♀ (CAR, NMPC); Zhejiang, Caoyutang, 27.55N,119.39E, 1100-1300 m, 3-4 May 2010, J. Turna lgt, 3 specimens (NMPC). **Taiwan**: Nantou, Renai Township, Sungkang, 1 May 2007, S.-T. Hisamatsu lgt, 9 specimens (NMPC, CAR); ibidem, 2 May 2007, 3 specimens (NMPC); Nantou, Meifeng, 2100 m, 23 Mar 1998, H. Sugaya lgt, 7 specimens (NMPC); Nantou, Sun Kang, 1600 m, 17 Apr 1991, Lo lgt, 2 specimens (CAR); Fenchihu, 1400 m, 11 Apr 1977, J. Klapperich lgt, 1 specimen (NMPC); Haozan, H. Sauter lgt, without further data, 1 ♀ (NMPC).

Distribution. **EPA**: FUJ, HUB, JA (Amami and Izu Islands), TAI, ZHE.

Occurring in central-eastern China,Taiwan and southernmost islands of Japan (S.T. Hisamatsu 2009).

Chorotype. Eastern Chinese-Japanese.

Host-plants. Among the plants listed by S.-T.Hisamatsu (2009), *Rubus* sp. is most probably the true host-plant of this species, but *Prunus phaeosticta* cannot be excluded as potential alternative host.

Habitat. Mostly in montane forests in altitude, between 1100-2400 m**.**

Phenology. III-IV-**V-VI-VII**-VIII**.**

DNA data. Not available.

Taxonomic remarks. This species apparently recalls in body colour *M. flavicollis*, which is amply distinct for the less convex body shape, the duller elytra, and the quite different male and female genitalia. More closely related to *M. pseudopectoralis* sp. n. from Yunnan and to *M. lloydi* from Nepal and Yunnan, but easily distinguished from both species by the different shape of male and female genitalia, and by its allopatric distribution in SE China.

45. *Meligethes lloydi* Easton, 1968

Meligethes lloydi Easton, 1968: 44

Type locality. Tate, Nepal.

Diagnosis. From the closely related *M. pectoralis* fom SE China, *M. pseudopectoralis* sp. n. from Yunnan, and *M. sadanarii* from Taiwan, all sharing a similar, characteristic bicolored body (blackish with reddish head and pronotum), easily characterized by the peculiar shape of the ovipositor, and the markedly much diffuse elytral punctuation; anterior margin of clypeus truncate in *M. lloydi* and in *M. pectoralis*, markedly emarginated in *M. pseudopectoralis* sp. n., and subtruncate in *M. sadanarii*.

Description

Size: length 2.8-3.1 mm, width 1.5-1.7 mm.

Body color and pubescence: Black, head, prothorax, antennae and legs orange (Fig. 22 c). Pubescence long, recumbent, yellowish-grey.

Dorsal habitus: Body oblong oval, moderately convex (Fig. 22 c). Anterior margin of clypeus truncate. Pronotum strongly transverse, ratio WPR1/LPR1 = 1.86-2.00; ratio WPR2/LPR1 = 1.90-2.06; ratio WPR1/WELY = 0.90-0.92; ratio WPR2/WELY = 0.92-0.93, widest before posterior angles (ratio WPR2/WPR1 = 1.01-1.02), narrowed anteriorly (ratio WPR1/WPRA = 1.69-1.70). Sides of pronotum distinctly explanate, 1.5 times the width of lateral rim. Posterior angles obtuse, not prominent, basal margin besides them subtruncate. Punctures of frons and pronotum nearly the size of eye-facets, separated by 1-1.5 diameters on frons and sides of pronotum,becoming markedly sparser, separated by 2-3 diameters, on pronotal disc; interspaces smooth and shining. Elytra widest at basal fourth, fairly as long as their combined width, ratio LELY/WELY ≈ 1.01, ratio LPR1/LELY ≈ 0.49. Punctures equal in size to those of pronotum, separated by more than one diameter, without traces of transverse arrangement or strigosities, becoming somewhat finer posteriad; interspaces smooth and shining.

Pygidium in female broadly rounded (male unknown).

Ventral habitus: Hypomera concave, indistinctly sparsely punctulate, obsoletely alutaceous, moderately shining. Prosternal process spindle-shaped, bluntly pointed apically. Blunt mediolongitudinal carina of mesoventrite reaching its posterior margin. Metaventrite in female somewhat flattened in the middle, fine punctures separated by several diameters, interspaces smooth and shining, mediolongitudinal line indistinct (male unknown).

Appendages: antennae (Fig. 22 c) with ratio ANLE/HWEA = 0.78; antennal club oblong oval, ratio CLLE/W10J = 1.50; ratio CLLE/ANLE = 0.31. Protibiae slender, ratio LETI/WITI = 3.8-4.0; outer margin in distal half with several somewhat larger teeth. Protarsal plates in female narrow, dispaying ratio WFTA/LFTA = 0.26 (male unknown).

Male genitalia: Tegmen (Fig. 12 i) widest at its midlength, LETE/WITE = 1.20-1.29, tegminal incision narrowly rounded at its bottom, DTIN/LETE ≈ 0.36. Lateral lobes obliquely narrowed apically, with maximum length at inner margin. Aedeagus (Fig. 12 j) moderately elongate, widest at distal fourth, LEAE/WIAE = 1.60-1.80; sides rounded in distal half, with short truncately-rounded apex.

*Female genitalia:*distal apex as figured (Fig. 17 c). Gonocoxites bluntly pointed and comparatively short, exhibiting ratio GONL/CGOW ≈ 1.4; OVPL/GONL ≈ 2.8. Styli short, situated rather far behind apex (ratio STLE/DSIA ≈ 0.25; ratio STLE/CGOW = 0.06). Basal margins of gonocoxites nearly straight, transverse.

Variation: a couple of examined females from Yunnan has head and prothorax darker, brown-yellow with infuscate frons, pronotal disc and prosternal process. It is not clear, wheather it is a natural variation or artifact due to peculiar condition of preservation.

Material examined. **Nepal**: ♀ holotype, Tate [ca. 2500 m], 13-14 Jun 1952, T.D. Bourdillon lgt (BMNH). **China**: Yunnan, env. Dali, Cang Mts. (= Cang Shan), 25.41.21N, 100.06.12E, 3100 m, 21 May 2002, A. Konstantinov & M. Volkovich lgt, 3 ♀♀ (ARCC, NMPC); Yunnan, Weibaoshan, 25.12N, 100.24E, 2800-3000 m, 29-30 Jun 1992, V. Kubáň lgt, 2 ♂♂, 9 ♀♀ (NMPC, CAR).

Distribution. **EPA**: NE, XIZ (?), YUN.

Chorotype. SW Chinese-Nepalese.

Host-plants. Unknown.

Habitat. Edges of montane forests in altitude, between 2500-3200 m.

Phenology. **V-VI**.

DNA data. Not available.

Taxonomic remarks. This species was described from a single ♀ by Easton (1968) and males from Nepal remain still unknown; however, the above listed males from Yunnan fit almost perfectly the original description of this species, and the accompanying females exhibit an ovipositor almost identical to that described by Easton (1968). By its comparatively longer elytra and sparse punctuation of otherwise smooth and shining pronotum and elytra (diffuse elytral punctures separated by several diameters) is *M. lloydi* closely related to *M. pseudopectoralis* sp. n. Both species can be distinguished by different form of the ovipositor, which is shorter with concave sides and basal margins of gonocoxites almost rectilinear and transverse in *M. lloydi*, longer with subrectilinear sides and basal margins of gonocoxites obliquely diverging proximad and convex in *M. pseudopectoralis* sp. n. (Figs 17 b-c). Anterior margin of clypeus truncate in *M. lloydi*, markedly emarginate in *M. pseudopectoralis* sp. n.

46. *Meligethes pseudopectoralis* sp. n.

Type locality. Gaoligongshan Nature Reserve, 100 km W of Baoshan, Yunnan, China.

Diagnosis. This species resembles with its bright orange-red and black coloration without metallic lustre and sparsely simply punctate shining elytra without traces of transverse strigosities especially *M. lloydi* Easton. Both species can be distinguished by anterior margin of clypeus (truncate in *M. lloydi*, arcuately emarginate in *M. pseudopectoralis* sp. n.) and by different form of the ovipositor, which is shorter with concave sides and basal margins of gonocoxites almost rectilinear and transverse in *M. lloydi*, longer with subrectilinear sides and basal margins of gonocoxites convex and obliquely diverging proximad in *M. pseudopectoralis* sp. n. (Figs 17 b-c). Body form and coloration of *M. pseudopectoralis* sp. n. resemble also *M. flavicollis*, which differs in having truncate anterior margin of clypeus, wider meso-and metatibiae (ratio length of mesotibia/width of mesotibia = 2.6X in *M. flavicollis*, ≥3X in *M. pseudopectoralis* sp. n.), markedly transversely strigose elytra and different genitalia in both sexes. Coloration and genitalia of *M. pseudopectoralis* sp. n. are similar also to *M. pectoralis*, which differs in truncate anterior margin of clypeus and elytra displaying distinct transverse arrangement of denser and finer punctures, and blue metallic lustre. This new species differs from the closely related *M. sadanarii* from Taiwan by the different shape of the ovipositor, the slightly different male genitalia, and by its distinctly emarginated anterior margin of the clypeus.

Description (♂ holotype)
Size: length 2.7 mm, width 1.5 mm.
Body color and pubescence: Black, head, pronotum, prosternum, antennae and legs orange, tip of prosternal process slightly infuscate. Pubescence with long thin semirecumbent whitish setae not concealing tegument.
Dorsal habitus: body oval, convex (Fig. 22 d). Anterior margin of clypeus distinctly arcuately emarginate and very finely bordered, frons flatly convex, indistinctly transversely impressed between antennal insertions. Pronotum transverse (ratio WPR1/LPR1 = 1.90; ratio WPR2/LPR1 = 1.90), widest at posterior angles (ratio WPR2/WPR1 = 1.00) and arcuately narrowed anteriorly, exhibiting ratio WPR1/WPRA = 1.75. Posterior pronotal angles obtuse, basal margin besides them convex. Explanate sides of pronotum as wide as lateral rim. Punctures of frons and pronotum nearly equal in size to eye-facets, separated by 1-1.5 diameters, becoming somewhat finer and sparser on pronotal disc; interspaces smooth and shining. Elytra widest at basal fourth, rather strongly narrowed posteriad and very flatly rounded, almost subtruncate apically, exhibiting ratio LELY/WELY =. 1.00; ratio WPR1/WELY = 0.93; WPR2/WELY = 0.93. Lateral rim rather thick, bearing one series of dense small punctures, explanate sides as wide as the rim, not dilated posteriorly. Punctures equal to those of frons, separated by 1.0-1.5 diameters, interspaces smooth and shining. Elytra widest at basal fifth, gradually narrowed posteriorly, flatly separately rounded, almost subtruncate, apically. Elytral punctation diffuse without traces of transverse strigosities, punctures at base somewhat larger than those of pronotum, becoming gradually finer posteriad, separated by more than one diameter; interspaces smooth and shining. Pygidium obtusely rounded.
Ventral habitus: Hypomera concave, indistinctly sparsely punctulate, obsoletely microreticulate,moderately shining. Prosternal process flat and comparatively broad (its maximum width equal to combines length of antennomeres 3-5), narrowly rounded apically. Blunt mediolongitudinal carina of mesoventrite reaching its posterior margin. Metaventrite with punctures separated by several diameters in the middle; interspaces smooth and shining, at sides with traces of reticulation; with impressed impunctate mediolongitudinal furrow behind its midlength. Caudal marginal lines of mesocoxal cavities in outer half almost rectilinear, running posterolaterad towards posterior corners of metasternum. First abdominal sternum in the middle shining and sparsely punctate like metasternum, following sterna more finely and densely punctate, all with narrow impunctate strip at the median portion of posterior margins; lateral portions of all abdominal sterna microscopically punctulate and reticulate. Hypopygium with very fine and widely spaced punctures, in the middle smooth and shining, at sides with traces of reticulation. Caudal mar-

ginal lines of metacoxae running close to posterior margin of metacoxal cavity.
Appendages: antennae (Fig. 22 d) exhibiting ratio ANLE/HWEA = 0.80; antennal club oval, ratio CLLE/ANLE = 0.30, ratio CLLE/W10J = 1.30. Protibiae rather slender, ratio LETI/WITI = 3.40, outer margin with 3-4 somewhat larger teeth in distal portion. Protarsal plates relatively narrow (ratio LFTA/WFTA ≈ 0.27); tarsal claws strongly and sharply dentate.
Male genitalia: as figured (Figs 12 k-l). Tegmen widest at its midlength, with V-shaped distal excision, ratio LETE/WITE = 1.20, ratio DTIN/LETE ≈ 0.35; tips of lateral lobes narrowly rounded. Aedeagus displaying ratio LEAE/WIAE = 1.67, widest at distal third, sides in two basal thirds rectilinear, moderately converging proximad, in distal third strongly arcuate and obtusely pointed distad.
Female: Protarsal plates narrower than in males (ratio LFTA/WFTA ≈ 0.23); metaventrite in female somewhat flattened at posterior intercoxal margin, without distinct mediolongitudinal line.
Female genitalia (*ovipositor*): distal apex as figured (Fig. 17 b). Gonocoxites pointed, styli inserted behind apex (ratio STLE/DSIA = 0.30-0.32); ratio GONL/CGOW ≈ 1.27-1.45; OVPL/GONL = 1.85-2.00. Basal margins of gonocoxites convex, strongly diverging proximad.
Variation: Body length 2.4-3.1mm, width 1.3-1.6 mm; there is some little variation in the width of prosternal process and the shape of its tip, which is narrowly rounded to bluntly pointed. Apical portion of prosternal process to various extent infuscate. Subapical teeth on outer edge of protibia varying from fine to conspicuously large. Ratio CLLE/ANLE = 0.28-0.32, ratio CLLE/W10J = 1.28-1.38. Ratio WPR1/LPR1 = 1.82-1.96; ratio WPR2/LPR1 = 1.82-1.96; ratio WPR1/WPRA = 1.63-1.85; antennae exhibiting ratio ANLE/HWEA = 0.77-0.88. Ratio LELY/WELY = 0.97-1.02; ratio WPR1/WELY = 0.92-0.94; ratio WPR2/WELY = 0.92-0.94.
Type material. Holotype, ♂, **China**: Yunnan, Mts. 60 km E Tenchong, 2300 m, 14-19 May 2006, S. Murzin & I. Shokhin lgt (NMPC). Paratypes: the same data as holotype, 1 ♂, 17 ♀♀ (NMPC, CAR). **China**: W Yunnan, env. Baoshan, 5-8 Jun 1993, E. Jendek & O.Šauša lgt, 1 ♀ (NHMW); Yunnan, Gaoligongshan Nature Reserve, 100 km W Baoshan, 14-21 Jun 1993, E. Jendek & O. Šauša lgt, 3 ♂♂, 1 ♀ (NHMW, CAR); Yunnan, Gaoligong Mts., 24.57N, 98.45E, 2200-2500 m, 8-16 May 1995, V. Kubáň lgt, 2 ♂♂, 9 ♀♀ (NMPC, CAR).

Distribution. **EPA**: YUN.
Currently known from a few localities of the SW Chinese province Yunnan.

Chorotype. SW Sinic.

Host-plant. Unknown.

Habitat. Edges of montane forests in altitude, between 2200-2500 m.

Phenology. **V-VI**.

DNA data. Not available.

Taxonomic remarks. This species seems to be closely related especially to the similar and partly sympatric *M. lloydi* (for differences see Diagnosis above), and to the allopatric *M. sadanarii* from Taiwan. Similar genitalia in both sexes suggest also close relationship to allopatric *M. pectoralis.*

Name derivation. Referring to the external similarity with *M. pectoralis* Rebmann.

47. *Meligethes sadanarii* S.-T. Hisamatsu, 2009

Meligethes sadanarii S.-T. Hisamatsu, 2009: 35

Type locality. Taiwan, Hsinchu, Lidong-shan [= Lidong Mts.].

Holotype. MNST.

Diagnosis. This species is characterized by its bicolored body (black with head, prothorax and appendices orange), subtruncate anterior margin of clypeus and diffusely punctate elytra without traces of transverse strigosities. These characters are shared with *M. lloydi*, from which *M. sadanarii* differs in wider mesotibiae, denser elytral punctuation, and peculiar form of ovipositor. Another similar species, *M. pseudopectoralis* sp. n. differs from *M. sadanarii* in distinctly emarginate anterior clypeal margin, narrower mesotibiae and the quite different shape of the ovipositor.

Description
Size: length 2.4-2.9 mm, width 1.4-1.6 mm.
Body color and pubescence: black, head, prothorax, legs and antennae orange (as in Fig. 22 d). Pubescence yellowish, thin, recumbent, inconspicuous.
Dorsal habitus: Body oval, convex (as in Fig. 22 d). Anterior margin of clypeus subtruncate, frons flat, frontoclypeal impression indistinct. Pronotum transverse (ratio WPR1/LPR1 = 1.72-1.80; ratio WPR2/LPR1 = 1.72-1.79), widest at posterior angles (ratio WPR2/WPR1 = 0.98-1.00) and arcuately narrowed anteriad, ratio WPR1/WPRA = 1.77-1.85; posterior angles of pronotum obtuse, not prominent. Explanate sides as wide as lateral rim. Punctures of frons and pronotum nearly equal in size to eye-facets, separated by 1-1.5 diameters, becoming sparser on pronotal disc; interspaces smooth and shining. Elytra widest at basal fourth, flatly separately rounded apically, exhibiting ratio LPR1/

LELY = 0.51-0.55; ratio LELY/WELY = 0.89-0.96; ratio WPR1/WELY= 0.89-0.93; ratio WPR2/WELY = 0.88-0.94; punctures nearly equal in síze to those of pronotum, separated by more than one diameter, without traces of transverse strigosities; interspaces smooth and shining. *Ventral habitus:*hypomera concave, impunctate. Prosternal process flat, spindle-shaped, acutely pointed, its maximum width equal to combined length of antennomeres 3-5. Blunt mediolongitudinal carina of mesoventrite reaching its posterior margin. Metaventrite in male with short distinct and narrow mediolongitudinal impression in posterior two thirds, shorter and markedly shallower in female.
Appendages: antennae (as in Fig. 22 d), exhibiting ratio ANLE/HWEA ≈ 0.80 ; antennal club small, oval, ratio CLLE/W10J ≈ 1.25; ratio CLLE/ANLE ≈ 0.30; ratio L03J/W03J ≈ 2.7; ratio L03J/L02J ≈ 1.0; ratio L03J/L04J ≈ 1.7. Protibiae exhibiting ratio LETI/WITI ≈ 3.5-3.6 in both sexes, outer margin indistinctly denticulate with several larger teeth at distal end. Protarsal plates exhibiting ratio WFTA/LFTA = 0.28 (in males), ratio WFTA/LFTA = 0.26 (in females). Mesotibiae wider than in related species, ratio length/width of mesotibia ≈ 2.5.
Male genitalia: as figured (Figs 12 m-o); ratio LETE/WITE ≈ 1.35; medial distal excision of tegmen V-shaped, ratio DTIN/LETE ≈ 0.37; ratio LEAE/WIAE ≈ 1.70; ratio WIAE/BWAE ≈ 1.10. Main sclerites of aedeagal flagellum relatively small, rod-shaped (Fig. 12 o).
Female genitalia (*ovipositor*): distal apex as figured (Fig. 17 d). Ovipositor of peculiar shape, with short and blunt protuberances at sides of short acute tip. Gonocoxites rather broad, exhibiting ratio GONL/CGOW ≈ 1.20; ratio STLE/CGOW ≈ 0.06; ratio OVPL/GONL ≈ 2.60. Basal margins of gonocoxites concave, diverging distad, with recurrent outer basal corners. Styli short, situated in shallow incisions between apex and lateral protuberances (ratio STLE/DSIA ≈ 0.32).
Variation: examined specimens display no substantial variation except than body size.

Material examined. **Taiwan**: Hsinchu, Lidong-shan [= Lidong Mts.], Jianshih Township, 1500-1913 m, 25 Apr 2007, S.-T. Hisamatsu lgt, on flowers of *Viburnum* sp., 1 ♂ and 10 ♀♀ paratypes (CAR, NMPC); Nantou Hsien, Sunkang, 1600 m, 17 Apr 1991, Lo lgt, 25 specimens (CAR); Nantou Hsien, Sunkang, Renai Township [ca. 1000 m], 2 May 2007, S.-T. Hisamatsu lgt, 1 ♂, 1 ♀ (CAR).

Distribution. **EPA**: TAI.
Only known from Taiwan.

Chorotype. Taiwanese endemic.

Host-plant. Unknown, presumably a species of *Rubus* sp. (S.-T. Hisamatsu 2009); some specimens were collected in flowers of *Prunus phaeosticta* (Hansen) Maxim., which may be a possible host-plant of this species.

Habitat. Montane forests in altitude, between 1000-2300 m.

Phenology. **IV-V**. Extensive material of this species was collected in spring (S.-T. Hisamatsu 2009).

DNA data. Not available.

Taxonomic remarks. Oval and convex bicolored body with smooth and shining surface, strongly dentate tarsal claws and the shape of male genitalia classify *M. sadanarii* as member of the *M. pectoralis* species-group. Its habitus resembles *M. lloydi* and *M. pseudopectoralis* sp. n. from Nepal and southwestern China. From the partially sympatric (in Taiwan) *M. pectoralis* it differs in the deeply black elytra without metallic lustre and transverse strigosities (elytra with distinctly transversely arranged punctures and blueish metallic lustre in *M. pectoralis*), in coarser dorsal punctuation as well as in peculiar form of its ovipositor.

2.5. The *Meligethes ferrugineus*-group

Members of this species-group are characterized by rather convex and stubby, orange-brown unicolored and shining body, emarginated or truncate anterior margin of clypeus, diffusely punctate elytra without traces of transverse strigosities (Figs 22 e-h), small and compact antennae and antennal club, and strongly toothed tarsal claws, combined with variably shaped male genitalia (Figs 13 a-k) and ovipositors (Figs 17 e-i).

48. *Meligethes ferrugineus* Reitter, 1873

Meligethes ferrugineus Reitter, 1873a: 51

Type locality. India, Sikkim.

Lectotype. A ♂, first established *in collectione* by A.G. Kirejtshuk in 1979; formally designed herein (MHNP).

Diagnosis. This species is characterized by its orange-brown unicolored and shining body, markedly arcuately emarginated anterior margin of clypeus and diffusely punctate elytra without traces of transverse strigosities (Fig. 22 g). These characters are shared with *M. ferruginoides* sp. n., from which *M. ferrugineus* differs in more strongly emarginated anterior margin of clypeus, markedly narrower front tarsi in males, less coarse dorsal punctuation, and in slightly different form of male genitalia and ovipositor. Another similar species, *M. castanescens*, differs from *M. ferrugineus* in distinctly truncate anterior clypeal margin, and the quite different shape of the male genitalia.

Description
Size: length 2.8-3.0 mm, width 1.7-1.8 mm.
Body color and pubescence: testaceous-reddish, pubes-

cence recumbent, fine, yellowish, rather inconspicuous.
Dorsal habitus: Body rather compact and convex, moderately elongate (Fig. 22 g). Clypeus markedly sinuately-emarginate, not bordered. Frons broad, flat, without impressions. Punctures hardly equal in size to eye facets, separated by 0.5-1 diameter, interspaces smooth. Pronotum transverse (ratio WPR1/LPR1 = 1.90-2.00; ratio WPR2/LPR1 = 1.85-1.90), widest at posterior angles (ratio WPR2/WPR1 = 0.97-0.98) and regularly narrowed anteriad, ratio WPR1/WPRA = 1.63-1.166. Pronotal anterior angles scarcely prominent, obtuse; explanate sides nearly as wide as second antennomere, not dilated posteriorly. Posterior angles obtuse, not prominent. Punctures slightly smaller than eye facets, separated by 1-1.5 diameters, interspaces smooth and shining. Scutellum large, roundly subtriangular, densely punctate.
Elytra widest at basal fourth, distinctly narrowed anteriorly and rather strongly so posteriorly, flatly separately arcuate at their apices, exhibiting ratio LPR1/LELY = 0.50-0.55; ratio LELY/WELY = 0.89-0.92; ratio WPR1/WELY= 0.90-0.93; ratio WPR2/WELY = 0.88-0.90. Punctures at base somewhat larger than those of pronotum and separated by about one diameter, becoming gradually finer and sparser posteriorly. Pygidium widely and obtusely rounded in both sexes.
Ventral habitus: Prosternum, hypomera and median portion of metasternum very finely and sparsely punctate, interspaces smooth, but not shining, sides of prosternum and hypomera obsoletely reticulate. Sides of metasternum with normal puncturation, obsoletely reticulate. First abdominal sternum coarsely and densely punctate, between metacoxae shining, at sides reticulate. Prosternal process parallel-sided, blunty (roundly) angulate apically. Metaventrite in male medially with small shallow oval impression at posterior margin.
Appendages: antennae rather short and small (Fig. 22 g), exhibiting ratio ANLE/HWEA ≈ 0.70 ; antennal club small, oval, ratio CLLE/W10J ≈ 1.35; ratio CLLE/ANLE ≈ 0.30; ratio L03J/W03J ≈ 2.5; ratio L03J/L02J ≈ 1.0; ratio L03J/L04J ≈ 1.6. Outer margin of fore tibiae finely denticulate, several subapical relatively sharp teeth larger (ratio LETI/WITI ≈ 3.5 in both sexes). Protarsal plates in males moderately dilated, reaching about half of the width of fore tibia, (ratio exhibiting ratio WFTA/LFTA = 0.30 (in males), ratio WFTA/LFTA = 0.27 (in females). Tarsal claws strongly dentate.
Male genitalia: as figured (Figs 13 a-b). Setae at distal apex of tegmen moderately long, ratio THLE/LETE ≈ 0.18-0.20; ratio LETE/WITE ≈ 1.25; medial distal excision of tegmen V-shaped, ratio DTIN/LETE ≈ 0.30; ratio LEAE/WIAE ≈ 1.45-1.50; ratio WIAE/BWAE ≈ 1.13. Main sclerites of aedeagal flagellum relatively small, rod-shaped.
Female genitalia (*ovipositor*): as figured (Fig. 17 e); gonocoxites rather pointed and narrowed towards the apex, exhibiting ratio GONL/CGOW ≈ 1.6; ratio STLE/CGOW ≈ 0.06; ratio OVPL/GONL ≈ 2.20. Basal margins of gonocoxites almost straight, with obtusely pointed outer basal corners. Styli moderately long, slender, situated rather far from the apex (ratio STLE/DSIA ≈ 0.26).
Variation: The three examined specimens display no substantial variation except than body size and sexual characters.

Material examined. **India**: Sikkim, "Regenzeit" [= rain period], H. Fruhstorfer lgt, 2 ♂♂, syntypes (MHNP). One of the syntypes was originally selected *in collectione* as lectotype by A.G. Kirejtshuk in 1979; it is formally designed as lectotype herein. Same data, without type identification, 1 ♀ (CAR; sorted among unidentified material from the E.Reitter collection).

Distribution. **EPA**: SD.
Only known from N India, Sikkim.

Chorotype. Himalayan endemic.

Host-plants. Unknown.

Habitat. Unknown.

Phenology. The type material was collected during the rain period, presumably in June.

DNA data. Not available.

49. *Meligethes ferruginoides* sp. n.

Type locality. China, Sichuan, Liziping.

Diagnosis. This species is characterized by its orange-brown unicolored and shining body, slightly arcuately emarginated anterior margin of clypeus and diffusely punctate elytra without traces of transverse strigosities. These characters are shared with *M. ferrugineus*, from which *M. ferruginoides* sp. n. differs in much less strongly emarginated anterior margin of clypeus, slightly wider front tarsi in males, coarser dorsal punctuation, and in slightly different form of male genitalia and ovipositor. Another similar species, *M. castanescens*, differs from *M. ferruginoides* sp. n. in distinctly truncate anterior clypeal margin, and the quite different shape of male genitalia.

Description (♂ holotype)
Size: length 2.8 mm, width 1.6 mm.
Body color and pubescence: Head and pronotum reddish-brown, pronotal disc infuscate, scutellum and part of elytra darker, brown (Fig. 22 k). Legs and antennae yellow-brown, antennal club dark brown. Vestiture of dorsum with long thin recumbent brownish setae not concealing tegument.

Dorsal habitus: body broadly oval, convex (Fig. 22 k). Anterior margin of clypeus shallowly arcuately emarginated. Frons flat, punctures equal in size to eye-facets, separated by one diameter or less, interspaces smooth; frontoclypeal impressions absent. Pronotum transverse (ratio WPR1/LPR1 = 1.80; ratio WPR2/LPR1 = 1.84), slightly narrowed towards posterior angles (ratio WPR2/WPR1= 1.02), narrowed anteriorly (ratio WPR1/WPRA = 1.73-1.85). Posterior pronotal angles obtuse, not prominent. Explanate sides at their midlength nearly as wide as antennomere 3. Punctures of pronotum larger than those of frons, separated by 1-1.5 diameter, interspaces smooth and shining. Scutellum semicircular, punctures somewhat smaller than on pronotum, separated mostly by less than one diameter. Elytra widest at basal fourth, gradually narrowed posteriorly, separately flatly rounded apically, exhibiting ratio LELY/WELY = 0.95-1.02; ratio LPR1/LELY = 0.44-0.51; ratio WPR1/WELY = 0.88-0.94; ratio WPR2/WELY = 0.88-0.96. Punctures of elytra at base nearly equal in size to or slightly larger and coarser than those of pronotum, separated by one diameter or less, becoming gradually finer and sparser both laterally and apically; interspaces smooth and shining. Pygidium subtriangular, roundly obtuse and slightly reflexed apically. Punctures fine and shallow, at least partly slightly rasp-like, separated by more than one diameter; interspaces obsoletely reticulate

Ventral habitus: Prosternum, hypomera and median portion of metasternum finely and sparsely punctate, interspaces smooth, but not shining. First abdominal ventrite coarsely and densely punctate, between metacoxae shining, at sides reticulate. Prosternal process parallel-sided, blunty (roundly) angulate apically. Metaventrite in male medially with small shallow oval impression at posterior margin.

Appendages: Antennae (Fig. 22 k) exhibiting ratio ANLE/HWEA = 0.75, antennaal club oval, exhibiting ratio CLLE/W10J = 1.30; ratio CLLE/ANLE = 0.30. Protibiae (Fig. 22 k) exhibiting ratio LETI/WITI ≈ 3.50,outer margin densely finely denticulate with several teeth at distal end somewhat larger. Protarsal plates moderately widened (ratio WFTA/LFTA ≈ 0.31). Tarsal claws strongly dentate.

Male genitalia: as figured (Figs 13 c-d); ratio LETE/WITE = 1.23, terminal excision V-shaped, ratio dtIN/LETE = 0.35; tips of parameres broadly rounded. Setae at distal apex of tegmen moderately long, ratio THLE/LETE ≈ 0.19-0.20. Aedeagus rather broad (ratio LEAE/WIAE = 1.60) widest at distal third, strongly arcuately narrowed toward bluntly obtuse apex.

Female: Protarsal plates narrower than in males (ratio LFTA/WFTA ≈ 0.27); metaventrite in female somewhat flattened at posterior intercoxal margin, without distinct mediolongitudinal line.

Female genitalia (*ovipositor*): distal apex as figured (Fig. 17 f). Gonocoxites bluntly pointed, comparatively short, at sides slightly concave before apex, exhibiting ratio GONL/CGOW ≈ 1.50; styli short, inserted far from the tip, ratio STLE/DSIA ≈ 0.31; OVPL/GONL ≈ 2.60; basal margins of gonostylids almost straight, broadly diverging distad.

Variation: this species is markedly variable in body size and coloration, orange-yellowish to brown, in some specimens with more or less infuscate discal portion of pronotum and elytra; body length 2.3-3.1 mm, width 1.3-1.8 mm; ratio WPR2/LPR1 =1.83-1.95, pronotum widest at most of its posterior third (ratio WPR2/WPR1= 0.98-1.00). Antennae exhibiting ratio ANLE/HWEA = 0.75-0.85, antennaal club oval, exhibiting ratio CLLE/W10J = 1.25-1.30; ratio CLLE/ANLE = 0.28-0.32.

Type material. Holotype, ♂, **China**: Sichuan, Liziping, 28 Jun-3 Jul 1991, R. Dunda lgt (NMPC). Paratypes: the same data as holotype, 7 ♀♀ (NMPC, CAR); Sichuan, Liziping near Shimian, 200 km SW Ya´an, 27 Jun-3 Jul 1991, Z. Kejval lgt, 1 ♂, 1 ♀ (NMPC, CAR); Sichuan, Mt. Emei, 29.30N, 103.20E, 500-1200 m, 4-18 May 1989, J. Kolibáč lgt, 1 ♀ (NMPC); Sichuan, Wolong, 9-13 Aug 1992, J. Schneider lgt, 1 ♀ (NMPC); Sichuan, env. Maoxian, 2600-3000 m, 29 Jun 2003, S. Murzin lgt, 1 ♀ (NMPC); S. Sichuan, Ta Yan Ping, pass between Xiahe/Hongxi, 3000 m, 17-25 May 1999, V.Beneš lgt, 1 ♀ (NMPC); Hubei SW, Mulinzi, 30 km NE Hefeng, 30.1N,110.2E, 23-24 May 2004, J. Turna lgt, 1 ♀ (NMPC).

Distribution. **EPA**: HUB, SCH.
Currently known from Chinese provinces Sichuan and Hubei.

Chorotype. Central Sinic.

Host-plant. Unknown.

Habitat. Edges of montane forests in altitude, between 2500-3000 m.

Phenology. **V-VI-VII-**VIII.

DNA data. Not available.

Taxonomic remarks. This species seems to be closely related to the similar and allopatric *M. ferrugineus* (for differences see Diagnosis above). Similar genitalia in females also suggest relatively close relationship with the allopatric *M. castanescens.*

Name derivation. Referring to the external similarity with *M. ferrugineus* Reitter.

50. *Meligethes castanescens* Grouvelle, 1903

Meligethes castanescens Grouvelle, 1903: 114

Type locality. India, Darjeeling.

Lectotype. A ♀, first established *in collectione* by A.G. Kirejtshuk in 1979; formally designed herein (MHNP).

Diagnosis. This species is characterized by its red-brown to yellowish-brown unicolored and shining body, truncate anterior clypeal margin and diffusely punctate elytra without traces of transverse strigosities. Some of these characters are shared with *M. ferrugineus* and *M. ferruginoides* sp. n., which differ in more or less less strongly emarginated anterior margin of clypeus, and in markedly different form of male genitalia and ovipositor. The related *M. xenogynus* sp. n. differs in smaller average body size, in pronotum less narrowed anteriorly, in wider protarsi in males, and in markedly different form of male genitalia and ovipositor.

Description

Size: 2.4-2.9 mm length, 1.3-1.6 mm width.

Body color and pubescence: Unicolorous red-brown to yellowish-brown, rarely with more infuscate discal areas on pronotum and elytra. Pubescence moderately long, recumbent, yellowish, not concealing tegument (Fig. 22 e).

Dorsal habitus: Oval, moderately convex (Fig. 22 e). Anterior margin of clypeus usually subtruncate, rarely slightly arcuately emarginate. Frons flat, punctures equal in size to eye-facets, separated by 1-1.5 diameters; interspaces smooth and shining. Frontoclypeal impressions absent. Pronotum transverse (ratio WPR1/LPR1 = 1.90-2.00; ratio WPR2/LPR1 = 1.85-1.92, widest at base (ratio WPR2/WPR1 = 0.96), gradually narrowed anteriorly (ratio WPR1/WPRA =1.73-1.79). Posterior pronotal angles obtuse, not prominent. Explanate sides not wider than lateral rim, not dilated in front of posterior angles. Punctures of frons, pronotum and elytra nearly as large as eye-facets, separated by 1-2 diameters, interspaces smooth and shining. Elytra widest at basal fourth, flatly separately rounded apically, displaying ratio LELY/WELY = 0.96-1.01; ratio LPR1/LELY = 0.47-0.50; ratio WPR1/WELY = 0.89-0.91; ratio WPR2/WELY = 0.83-0.87.

Ventral habitus: Prosternum, hypomera and median portion of metasternum finely and sparsely punctate, interspaces smooth, but not shining. First abdominal ventrite coarsely and densely punctate, between metacoxae shining, at sides reticulate. Prosternal process parallel-sided, blunty (roundly) angulate apically. Metaventrite in both sexes flat, without impression, in male medially only with barely distinct median longitudinal line.

Appendages: Antennae (Fig. 22 e) displaying ratio ANLE/HWEA = 0.78-0.83; antennal club oval, ratio CLLE/W10J = 1.25-1.30, ratio CLLE/ANLE = 0.31-0.33. Fore tibia slender (ratio LETI/WITI = 3.7-3.9), its outer margin rather densely denticulate, 2-3 teeth at distal end somewhat larger. Protarsal plates in male scarcely widened, displaying ratio WFTA/LFTA = 0.30, in female narrower, displaying ratio WFTA/LFTA = 0.22.

Male genitalia: as figured (Figs 13 e-f); ratio LETE/WITE = 1.48-1.50, terminal excision of tegmen V-shaped, ratio DTIN/LETE = 0.41-0.43; tips of parameres broadly rounded. Setae at distal apex of tegmen moderately long, ratio THLE/LETE ≈ 0.18-0.20. Aedeagus long and parallel-sided (ratio LEAE/WIAE = 2.00-2.10) strongly arcuately narrowed toward narrowly truncate and protruded apex.

Female: Protarsal plates narrower than in males (ratio LFTA/WFTA ≈ 0.22); metaventrite in female somewhat flattened at posterior intercoxal margin, without distinct mediolongitudinal line.

Female genitalia (ovipositor): Distal apex as figured (Fig. 17 g). Gonocoxites comparatively long, displaying ratio GONL/CGOW ≈ 1.6; ratio HSTL/GONL= 1.38; OVPL/GONL ≈ 2.50. Styli short, situated far from the apex, ratio STLE/DSIA ≈ 0.40. Basal margins of coxites slightly convex, diverging proximad.

Variation: Punctures at sides of elytra sometimes showing faint traces of transverse arrangement, being distinctly more narrowly separated in transverse than in longitudinal direction. Anterior margin of clypeus in one examined female slightly arcuately emarginate.

Material examined. **India**: Darjeeling, Harmand [lgt] 1890, 1 ♀, Lectotype, here formally designed (MHNP); Darjeeling, vi, Fruhstorfer [lgt], 1 ♂, 1 ♀ (MHNP, CAR); West Bengal, Darjeeling env., 2200-2500 m, 4-7 Jul 1997, J. Schneider lgt, 1 ♀ (CAR). **China**: Yunnan, Gaoligongshan Nat. Res., 100 km W Baoshan, 14-21 Jun 1993, E. Jendek and O. Šauša lgt, 5 ♀♀ (NHMW, NMPC, CAR); Yunnan W, env. Baoshan, 5-8 Jun 1993, E. Jendek & O. Šauša lgt, 3 specimens (NHMW, CAR); Yunnan, Gaoligong Mts., 24.57N, 98.45E, 2200-2500 m, 8-16 May 1995, V. Kubáň lgt, 4 specimens (NMPC, CAR); Yunnan, Gaoligong Mts., Baoshan prefecture, 29 Km ESE of Tengchong, 24.55.37N, 98.45.09E, 2800 m, 1 Jun 2007, D.H. Wrase lgt, 1 ♀ (NKME); Yunnan, Cang Mts. (= Cangshan), 23.38N, 100.09E, 14-21 Jun 1993, Bolm lgt, 1 ♀ (NHMB); Yunnan, Dali env., Cang Mts. (= Cangshan), 25.41.37N, 100.07.45E, river valley, 23 May 2002, A. Konstantinov & M. Volkovich lgt, 1 ♂ (CAS); Yunnan, Cangshan (= Cang Mts.), 25.38N, 100.09E, 5-6 Jun 1993, V. Kubáň lgt, 1 specimen (NMPC).

Distribution. **EPA**: SD, YUN.
Only known from NE India (Sikkim-Darjeeling) and SW China (Yunnan).

Chorotype. E Himalaian.

Host-plants. Unknown.

Habitat. Deciduous forest edges in mountain areas; collected between 2000 and 2800 m.

Phenology. **V-VII**.

DNA data. Not available

Taxonomic remarks. Habitus and coloration of this species also resemble those of the closely related *M. xenogynus* sp. n., which differs in smaller size, somewhat more densely punctate frons and pronotum, wider protarsi in males, and pronotum less narrowed anteriorly (ratio WPR1/WPRA = 1.60-1.71 in *M. xenogynus* sp. n., in *M. castanescens* = 1.73-1.79).

51. *Meligethes xenogynus* sp. n.

Type locality. China, Shaanxi, Qing Ling Mts., Hou Zen Zi village.

Holotypus. NHMW.

Diagnosis. *Meligethes xenogynus* sp. n. can be easily diagnosed from other species of the *M. ferrugineus* species-group by its comparatively small average size, uniform brown-yellow coloration, strongly dentate tarsal claws, truncate anterior margin of clypeus, transverse strigosities developed at least in lateral portion of elytra, rather widely dilated protarsi in males, and the peculiarly shaped genitalia in both sexes. From species of *M. vulpes* species-group with similar color may be easily distinguished by strongly dentate tarsal claws and more shining dorsal surface.

Description (♂ holotype)
Size: 2.3 mm length, 1.2 mm width.
Body color and pubescence: Entire body brown-yellow, head and pronotal disc somewhat infuscate, brownish. Pubescence long, yellow, recumbent, not concealing tegument (Fig. 22 h).
Dorsal habitus: Oval, moderately convex (Fig. 22 h). Anterior margin of clypeus truncate. Frons flat, densely punctate; punctures nearly equal in size to eye-facets, separated by less than one diameter; frontoclypeal impression absent. Pronotum transverse (ratio WPR1/LPR1 = 1.85; WPR2/LPR1 = 1.82),widest at posterior angles (ratio WPR2/WPR1 = 0.97), narrowed anteriorly (ratio WPR1/WPRA = 1.65); punctures equal to those of frons, sparser, separated by about one diameter; interspaces smooth. Posterior angles obtuse, not prominent. Sides hardly explanate. Scutellum subtriangular, punctate like pronotum. Elytra widest at basal fourth, gradually narrowed posteriorly,separately flatly rounded apically, exhibiting ratio LELY/WELY = 0.98; ratio LPR1/LELY = 0.51; ratio WPR1/WELY = 0.90; ratio WPR2/WELY = 0.85. Elytral punctures equal to those of pronotum, separated by ca. 1 diameter, with transverse strigosities distinct at least in lateral portions of elytra; interspaces smooth and shining.
Ventral habitus: Hypomera concave with shallow indistinct punctures separated by 1-1.5 diameters, microreticulate. Prosternal process flat, spindle-shaped, bluntly pointed apically. Blunt mediolongitudinal carina of mesoventrite reaching its posterior margin. Metaventrite smooth and shining, punctate like elytra, punctures becoming gradually smaller and interspaces with feeble traces of reticulation laterally; fine mediolongitudinal line behind its midlength distinctly impressed. Mesocoxal lines arcuate, bordering inner half of coxal cavity, in outer half rectilinear, running posterolaterad to reach metasternopleural suture behind its midlength. Punctation of the first abdominal sternum analogous to that of pronotum, following sterna with finer punctures and feeble traces of reticulation. Metacoxal lines closely bordering posterior margins of metacoxal cavities.
Appendages: Antennae (Fig. 22 h) exhibiting ratio ANLE/HWEA = 0.80; antennal club oval, ratio CLLE/W10J = 1.25; ratio CLLE/ANLE = 0.30. Protibia exhibiting ratio LETI/WITI = 3.40. Protarsal plates exhibiting ratio WFTA/LFTA ≈ 0.35. Tarsal claws strongly acutely dentate.
Male genitalia: as figured (Figs 13 j-k), weakly sclerotized and pigmented. Tegmen exhibiting ratio LETE/WITE = 1.36; medial distal excision of tegmen V-shaped, ratio DTIN/LETE ≈ 0.40; parameres narrowly rounded apically. Longest setae at distal apex of tegmen peculiarly long, ratio THLE/LETE ≈ 0.40-0.44 (Fig. 13 j). Aedeagus comparatively long, exhibiting ratio LEAE/WIAE = 2.33; in basal half subparallel-sided, indistal half moderately narrowed towards broadly rounded apex.
Female: Protarsal plates in female markedly narrower than in male, ratio WFTA/LFTA ≈ 0.28 in female. Metaventrite in female transversely depressed along posterior intercoxal margin, mediolongitudinal line indistinct.
Female genitalia (*ovipositor*): the whole ovipositor as figured (Fig. 17 h). Ovipositor peculiarly small and weakly pigmented, gonocoxites bluntly pointed, comparatively long and narrow, exhibiting ratio GONL/CGOW ≈ 2.1; ratio OVPL/GONL ≈ 1.7; ratio STLE/DSIA = 0.38, ratio STLE/CGOW ≈ 0.11. Basal margins of gonocoxites rather straight, almost transverse.
Variation: Size: 2.2-2.5 mm length, 1.2-1.4 mm width. Pronotum exhibiting ratio WPR1/LPR1 = 1.75-1.91; ratio WPR2/LPR1 = 1.77-1.95, widest at posterior angles (ratio WPR2/WPR1 = 0.95-0.99), narrowed anteriorly (ratio WPR1/WPRA = 1.60-1.71). Elytra exhibiting ratio LELY/WELY = 0.97-1.00; ratio LPR1/LELY= 0.50-0.52; ratio WPR1/WELY = 0.88-0.92; ratio WPR2/WELY = 0.82-0.89. Examined specimens are rather uniform, only the coloration varies from completely brown-yellow to somewhat infuscate brownish frons and pronotal disc and/or elytra in some specimens. Elytral punctures sometimes transversely arranged over entire elytra, but more often the strigosity is limited to lateral portions of elytra. Antennae

exhibiting ratio ANLE/HWEA = 0.77-0.82; ratio CLLE/W10J = 1.19-1.25; ratio CLLE/ANLE = 0.29-0.31. Protibia exhibiting ratio LETI/WITI = 3.20-3.50.

Type material. Holotype, ♂, **China**: Shaanxi, Qing Ling Shan, Hou Zen Zi vill. env., 30 km SE of Taibai Shan, 1500 m, 26 Jun 1996, O. Šafránek and M. Trýzna lgt (NHMW). Paratypes: the same data as holotype, 3 specimens (NMPC, CAR); Shaanxi, Hua Shan, 17-21 Jun 1991, R. Dunda lgt, 2 specimens (NMPC); Sichuan, Nanping, 2550 m, 5 Sep 1983, 1 specimen (NMPC).

Distribution. **EPA**: SHA, SCH.
Only known from Central China (Shaanxi, Sichuan).

Chorotype. Central sinic.

Host plants. Unknown.

Habitat. Collected between 1500 and 2550 m.

Phenology. **VI-VII**-VIII-IX.

Taxonomic remarks. The ovipositor of this species is markedly the smallest and the less sclerified known inside the whole genus *Meligethes*. It could then be interesting to discover its larval host-plants.

52. *Meligethes shirakii* S. Hisamatsu, 1956

Meligethes shirakii S. Hisamatsu 1956: 168
Meligethes zakharenkoi Kirejtshuk 2005: 104 (**syn. n.)**

Type locality. southern Japan, Amami-Ohshima Islands, Mt. Yuwan.

Holotype. CHHU.

Description
Size: 2.6-3.3 mm length, 1.5-1.9 mm width.
Body color and pubescence: Red-brown, legs and antennae brown-yellow, antennal club sometimes infuscate (Fig. 22 f). Pubescence of dorsum dense and long, thin, recumbent, yellowish, not concealing tegument. Exceptionally scutellum, elytra and pygidium as well as metasternum and abdominl sterna blackish.
Dorsal habitus: Oval, moderately convex (Fig. 22 f); ratio LPR1/LELY = 0.46-0.50; ratio LELY/WELY = 1.00-1.11; ratio WPR1/WPRA = 1.77-1.88; ratio WPR2/WELY = 0.90-0.97; ratio WPR2/WPR1 = 0.93-0.96; ratio WPR1/WELY = 0.89-0.91; posterior pronotal angles obtuse, not prominent, lightly depressed; explanate sides of pronotum hardly wider than antennal flagellum, not dilated posteriorly, except for depressed posterior angles, often somewhat lighter than pronotal disc.
Frons flat, punctures somewhat smaller than eye-facets, mostly separated by less than one diameter. Interspaces smooth and shining.
Pronotum transverse, widest at base and gradually narrowed anteriorly, sides regularly arcuate, (ratio WPR1/LPR1 = 1.75-1.83; ratio WPR1/WPRA =1.77-1.88). Punctures of pronotum equal in size to those of frons, separated by one diameter or less, interspaces with traces of reticulation arranged radially around individual punctures. Scutellum rounded, punctate like pronotum. Elytra widest at basal fifth, rather strongly narrowed distad, truncate apically. Punctures somewhat finer than on pronotum, slightly elongate, separated by 1-1.5 diameters in longitudinal, and by 0.5-1 diameters in transverse direction, thus showing traces of transversal arrangement, yet without transverse strigosities. Interspaces smooth, more shining than on pronotum.
Ventral habitus: Prosternum transversely convex, punctures smaller than eye-facets, irreguarly dispersed. Prosternal process spindle-shaped, widest behind procoxae, bluntly pointed apically; surface flat, somewhat rugosely punctate. Metasternum in both sexes flattened in the middle, mediolongitudinal line almost indistinct and not impressed, punctures along the line irregularly dispersed, separated by 0.5-2 diameters, becoming markedly finer, closer and regularly dispersed laterally; interspaces smooth and shining in the middle, duller and at places with indistinct traces of reticulation laterally. Axillary mesocoxal line with outer recurrent portion almost rectilinear, reaching metasternopleural suture behind its midlength; axillary spaces transversely microscopically wrinkled. First abdominal sternum punctate like metasternum, following sterna densely finely punctulate. Hypopygium with very fine and widely spaced punctures, shining.
Appendages: Antennae rather short with small antennal club (Fig. 22 f); ratio ANLE/HWEA = 0.73-0.78; antennal club oval, ratio CLLE/W10J = 1.30-1.35, ratio CLLE/ANLE = 0.30-0.32. Fore tibiae only moderately slender (ratio LETI/WITI = 3.1-3.3 in males, = 3.4-3.6 in females), their outer margin rather densely and minutely crenellate/denticulate, 2-3 teeth at distal end sometimes slightly larger. Protarsal plates in male markedly widened, displaying ratio WFTA/LFTA ≈ 0.40, in female narrower, displaying ratio WFTA/LFTA ≈ 0.30. Ratio LPTI/WPTI ≈ 3.3.
Male genitalia: as figured (Figs 13 g-h), weakly sclerotized and pigmented. Tegmen exhibiting ratio LETE/WITE = 1.43; medial distal excision of tegmen V-shaped, ratio DTIN/LETE ≈ 0.46; parameres narrowly rounded apically. Longest setae at distal apex of tegmen moderately long, ratio THLE/LETE ≈ 0.18-0.20 (Fig. 13 g). Aedeagus comparatively long, exhibiting ratio LEAE/WIAE = 2.27-2.30, widest in basal half and subparallel-sided, in distal half moderately narrowed towards shortly and broadly spatulated apex.
Female genitalia (ovipositor): distal half as figured (Fig. 17 i). Ovipositor strongly sclerified and rather pigmented, gonocoxites markedly divergent distad, their obtuse-

ly pointed apices separated each other by a narrow and deep excision, 0.70X as long as CGOW. Ratio GONL/CGOW = 1.38; ratio OVPL/GONL = 3.1; styli relatively short, scarcely protruded outwards, and placed very far from the apex of each gonocoxite, ratio STLE/DSIA = 0.17, ratio STLE/CGOW = 0.06. Basal margins of gonocoxites slightly convex and diverging proximad, almost transverse.

Variation: This species is moderately variable in shape, size, and color, as above reported.

Material examined. **Japan**: Kyū-Shū, Kagoshima, Yamakubiri-rindô, ca. 200 m, Tokunoshima Town, Is. Tokunoshima, 14 Mar 2009, Ta. Kurihara lgt, 1 specimen (NMPC); Kyū-Shū, Kagoshima, Mt. Amagi, 500-530 m, Tokunoshima Town, Is. Tokunoshima, 16 Mar 2009, Ta. Kurihara lgt, 2 specimens (NMPC); Kyū-Shū, Kagoshima, Tete-rindô, 200-340 m, Tokunoshima Town, Is. Tokunoshima, 18 Mar 2009, Ta. Kurihara lgt, 1 specimen (NMPC). **Taiwan**: Taoyuan, Sihling-Sihun, Fusing Township, 19 Apr 2007, from flowers of *Prunus phaeosticta* (Hance) Maxim., S.-T. Hisamatsu lgt, 8 specimens (NMPC, CAR); Nantou, Sungkang, Renai Township, 1 May 2007. S.-T. Hisamatsu lgt, 3 specimens (CAR, NMPC); ibidem, 2 May 2007, from flowers of *Prunus phaeosticta* (Hance) Maxim., 2 specimens (NMPC); ibidem, 3 May 2007, 1 specimen (NMPC); Meishan, Kaohsiung, 100 km NW Taitung, 950 m, 23.15.9N, 120.9.5E,

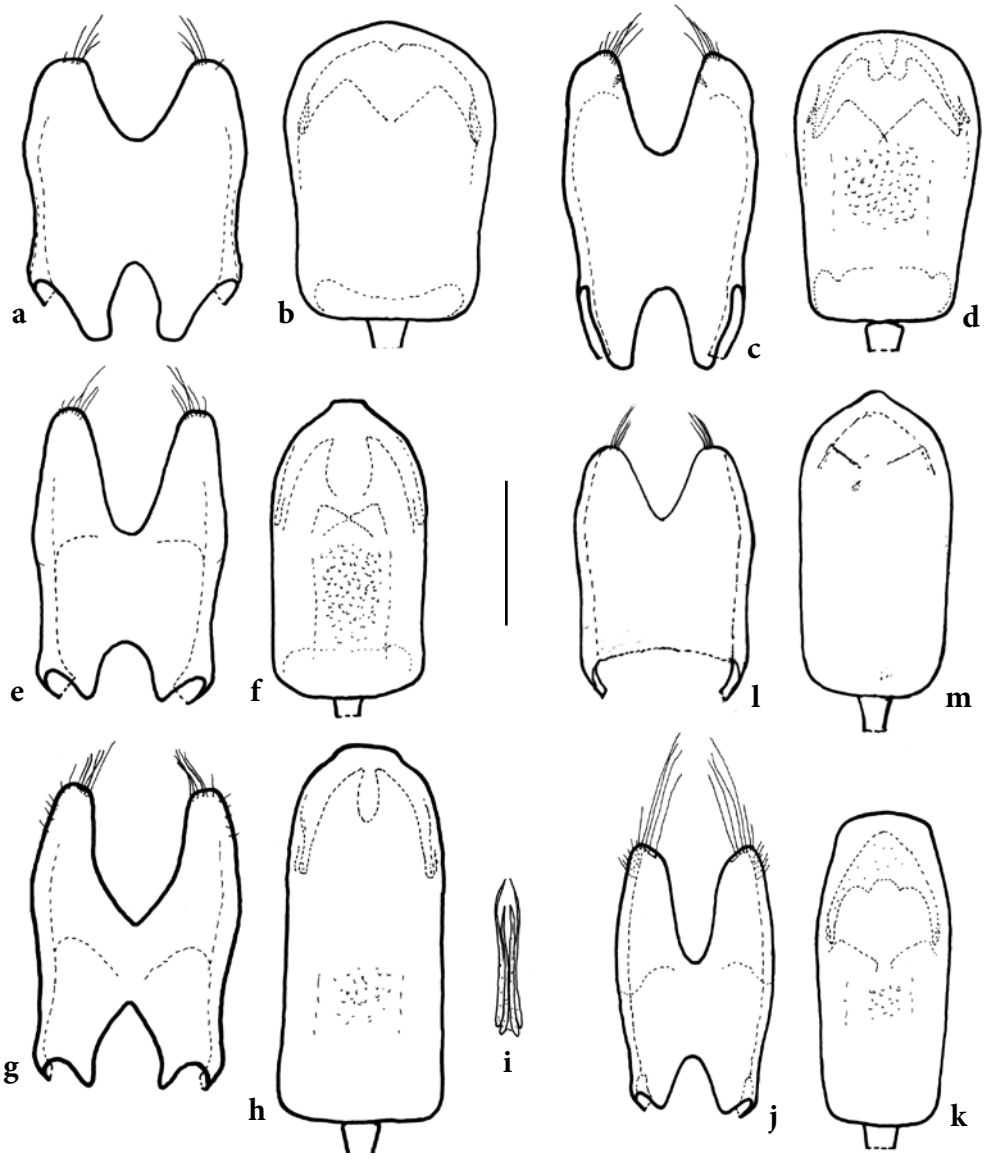

Fig. 13 − Male genitalia of *Meligethes* spp. (**a**, **c**, **e**, **g**, **j**, **l**, tegmen, dorsal view; **b**, **d**, **f**, **h**, **k**, **m**, median lobe of the aedeagus, dorsal view; **i**, main sclerite of the aedeagus, dorsal view): **a**, **b**, *M. ferrugineus* Reitter, 1873; **c**, **d**, *M. ferruginoides* sp. n.; **e**, **f**, *M. castanescens* Grouvelle, 1903; **g**, **h**, **i**, *M. shirakii* S. Hisamatsu, 1956; **j**, **k**, *M. xenogynus sp. n.*; **l, m**, *M. pallidoelytrorum* Chen & Kirejtshuk, 2013. Scale bar: 0.2 mm.

12 Jun 2008, F. & L. Kantner lgt, 2 ♂♂ (NMPC); see also S.T. Hisamatsu (2009) for additional material recently studied by specialists of the group. **China**. W Zhejiang, Qianjiang, 29.23N, 118.12E, 720-950 m, forest park, 29 May 2010, J. Turna lgt, 1 ♂ (NMPC); W Guizhou, Leigonshan, Xjijang, 1200-1900 m, 29 May-2 Jun 1997, Bolm lgt, 1 ♂, 2 ♀♀ (NHMB, CAR).

Distribution. **EPA**: JAP, TAI, GUI, ZHE.
Only known from southern islands of the Japanese Archipelago (southern Kyū-Shū, Amami Islands), from Taiwan, and from SE Chinese provinces Zhejiang and Guizhou.

Chorotype. Southern Japanese-SE Sinic.

Host plants. Adults of this species have been frequently collected in Taiwan on *Prunus phaeosticta* (Hance) Maxim. (Rosaceae) (S.-T. Hisamatsu 2009), but no sure larval-host plant relationships are known; however, combining this field evidence with the unusual shape and strong sclerotization of the ovipositor, it is likely that a tree species with large and relatively hard blossoms such *Prunus* could be the true larval host-plant of *M. shirakii*.

Habitat. Collected between 200 and 2300 m, in low, mid-

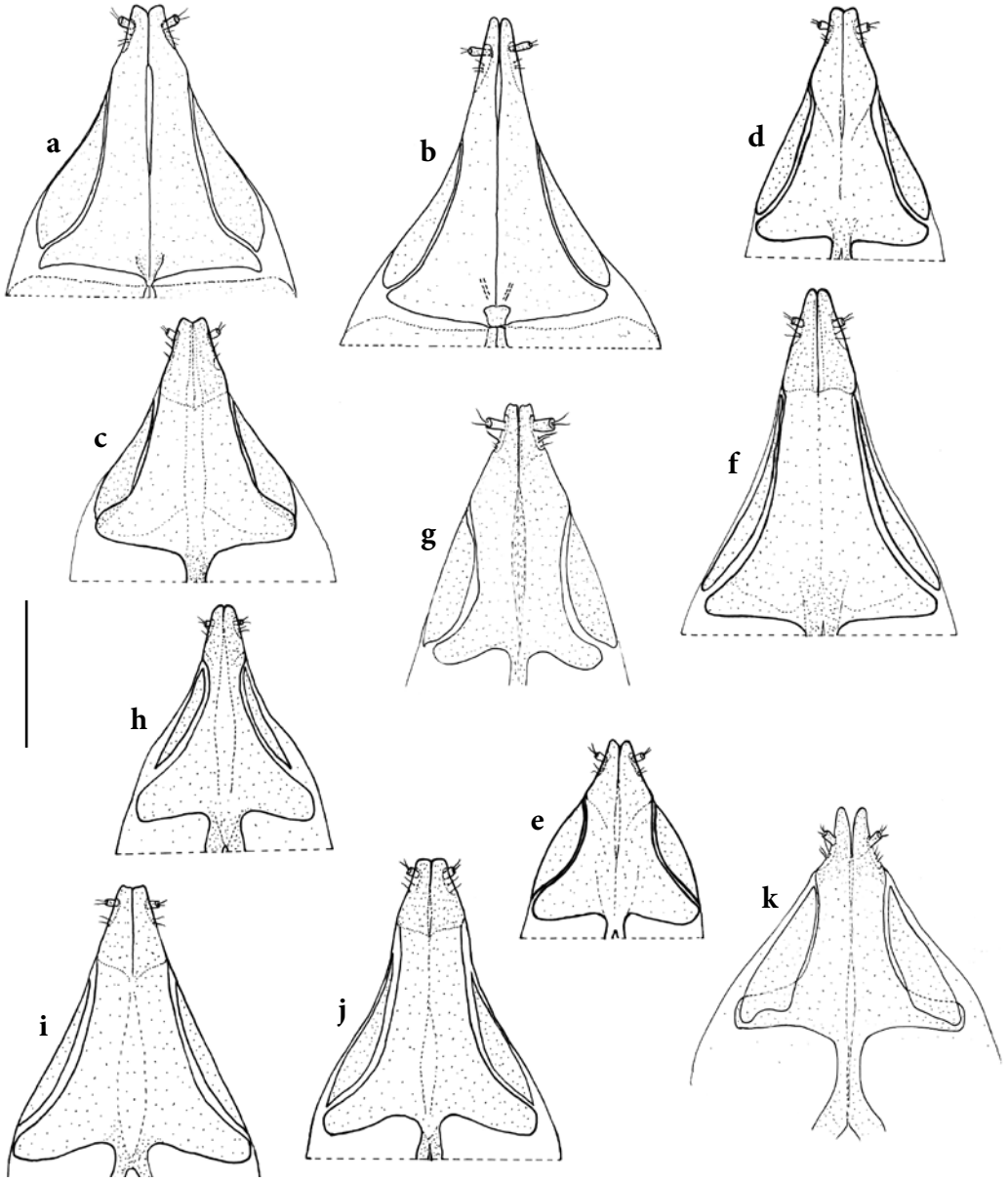

Fig. 14 – Female genitalia (distal portion of the ovipositor, from "central point" to apex) of *Meligethes* spp.: **a**, *M. atratus* (Olivier, 1790); **b**, *M. flavimanus* Stephens, 1830; **c**, *M. hammondi* Kirejtshuk, 1980; **d**, *M. violaceus* Reitter, 1873; **e**, *M. torquatus* Jelínek, 1997; **f**, *M. cyaneus* Easton, 1957; **g**, *M. martes* sp. n.; **h**, *M. lutra* Solsky, 1876; **i**, *M. vulpes* Solsky, 1876; **j**, *M. melleus* Grouvelle, 1908; **k**, *M. nivalis* sp. n. Scale bar: 0.2 mm.

dle and high altitude areas (S.T. Hisamatsu 2009) with mixed vegetation (bushes and small trees).

Phenology. III-**IV-V-VI**-VII-VIII. This species is particularly active in Spring.

DNA data. Not available. However, a few specimens recently collected in Taiwan through the kindness of our colleague Sadatomo Hisamatsu, are available in pure ethanol, and their COI DNA sequences will be obtained soon (Audisio et al. unpublished data).

Taxonomic remarks. As now evident from comparison of abundant Japanese material of *Meligethes shirakii* S. Hisamatsu 1956 from Amami-Oshima Islands (originally described on the single ♂ holotype) and southern Kyū-Shū, and of *Meligethes zakharenkoi* Kirejtshuk 2005 from Taiwan, both taxa belong to the same species (**syn. n.**). The ovipositor of this species is markedly one of the largest and more sclerified known into the whole genus *Meligethes* and its peculiar shape (Fig. 17 i) curiously recalls that known to occur in several genera and species of mycetobiontic Nitidulinae of the *Pocadius* genus-complex (see, e.g., Cline 2008).

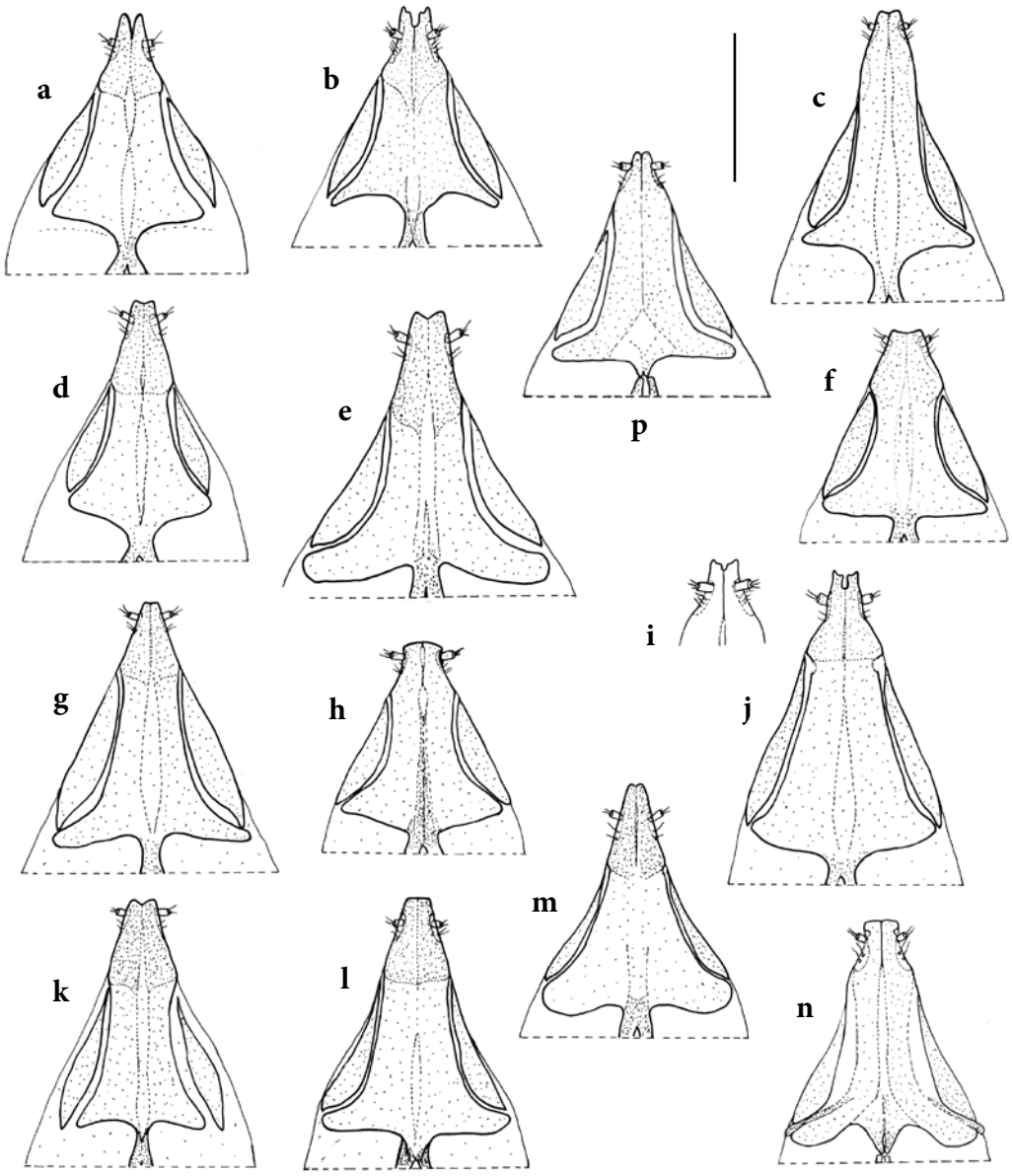

Fig. 15 − Female genitalia (distal portion of the ovipositor, from "central point" to apex) of *Meligethes* spp.: **a**, *M. nepalensis* Easton, 1968; **b**, *M. volkovichi* sp. n.; **c**, *M. griseus* Jelínek, 1978; **d**, *M. binotatus* Grouvelle, 1894; **e**, *M. semenovi* Kirejtshuk, 1979; **f**, *M. tryznai* sp. n.; **g**, *M. transmissus* Kirejtshuk, 1988; **h**, *M. auricomus* Rebmann, 1956; **i**, **j**, *M. stenotarsus* sp. n. (**i**, paratype from N Yunnan; **j**, specimen from Xizang); **k**, *M. marmota* sp. n.; **l**, . *argentithorax* sp. n.; **m**, *M. auripilis* Reitter, 1889; **n**, *M. elytralis* sp. n; **p**, *M. cinereus* Jelínek, 1978. Scale bar: 0.2 mm.

2.6. The *Meligethes aurantirugosus*-group

Isolated group, only including the single following species.

53. *Meligethes aurantirugosus* sp. n.

Type locality. NW Nepal, Seti Province, Bajhang District, 29 Km NE Chainpur.

Diagnosis. This species is easily characterized by its orange-brown almost unicolored and moderately shining dorsal side of body and appendeages coupled with blackish-brown ventral side (elytral suture, scutellum and frons also markedly darker), the distinctly paler pronotal lateral sides, the very slightly arcuately emarginated anterior margin of clypeus, and the densely punctate elytra with irregular but almost complete and rather strong transverse strigosity. The latter character is shared, among other *Odonthogethes*, only with *M. flavicollis* and with *M. pectoralis,* which otherwise have entirely different colour, general aspect, and male genitalia.

Description (♂ holotype)
Size: length 2.8 mm, width 1.6 mm.
Body color and pubescence: Head brown dorsally, prono-

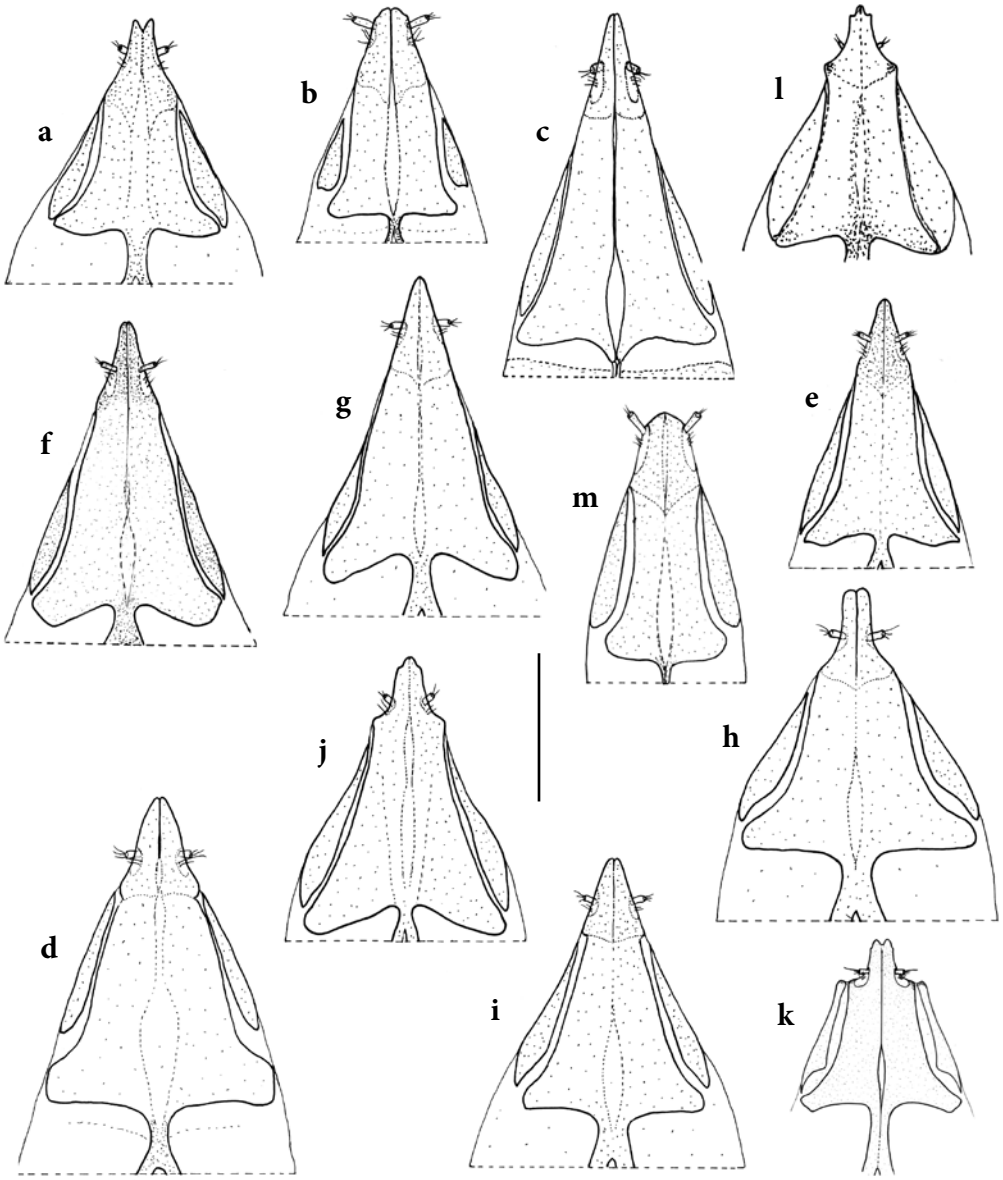

Fig. 16 − Female genitalia (distal portion of the ovipositor, from "central point" to apex) of *Meligethes* spp.: **a**, *M. aurifer* sp. n.; **b**, *M. flavicollis* Reitter, 1873; **c**, *M. denticulatus* (Heer, 1841); **d**, *M. wagneri* Rebmann, 1956; **e**, *M. nigroaeneus* sp. n.; **f**, *M. luteoornatus* sp. n.; **g**, *M. bourdilloni* Easton, 1968; **h**, *M. brassicogethoides* sp. n.; **i**, *M. chinensis* Kirejtshuk, 1979; **j**, *M. simulator* sp. n.; **k**, *M. occultus* sp. n.; **l**, *M. pallidoelytrorum* Chen & Kirejtshuk, 2013; **m**, *M. pseudochinensis* sp. n. Scale bar: 0.2 mm.

tum orange-brown with infuscate discal portion and markedly paler flattened sides, scutellum and elytral suture darker, blackish-brown (Fig. 20 i); ventral side almost entirely blackish-brown. Legs and antennae including club orange-brown. Vestiture of dorsum with very short, fine, hardly visible recumbent golden setae.

Dorsal habitus: body broadly oval, moderately convex (Fig. 20 i). Anterior margin of clypeus very shallowly arcuately emarginated (Fig. 20 i). Frons flat, punctures equal in size to eye-facets, separated by 0.5/0.8 diameter, interspaces smooth; frontoclypeal impressions absent. Pronotum transverse (ratio WPR1/LPR1 = 1.84; ratio WPR2/LPR1 = 1.86), very slightly narrowed towards posterior angles (ratio WPR2/WPR1= 1.02), narrowed anteriorly (ratio WPR1/WPRA = 1.64). Posterior pronotal angles obtuse, not prominent. Explanate sides at their midlength nearly as wide as antennomere 2. Punctures of pronotum slightly larger than those of frons, separated by 0.5/0.8 diameter, interspaces smooth and shining. Scutellum semicircular, punctures somewhat smaller than on pronotum, separated mostly by less than one diameter. Elytra widest at basal fourth, gradually narrowed posteriorly, separately flatly rounded apically, exhibiting ratio LELY/WELY = 0.84; ratio LPR1/LELY = 0.57; ratio WPR1/WELY = 0.90; ratio WPR2/WELY = 0.92. Punctures of elytra at base nearly equal in size to those of pronotum but more elongate, sepa-

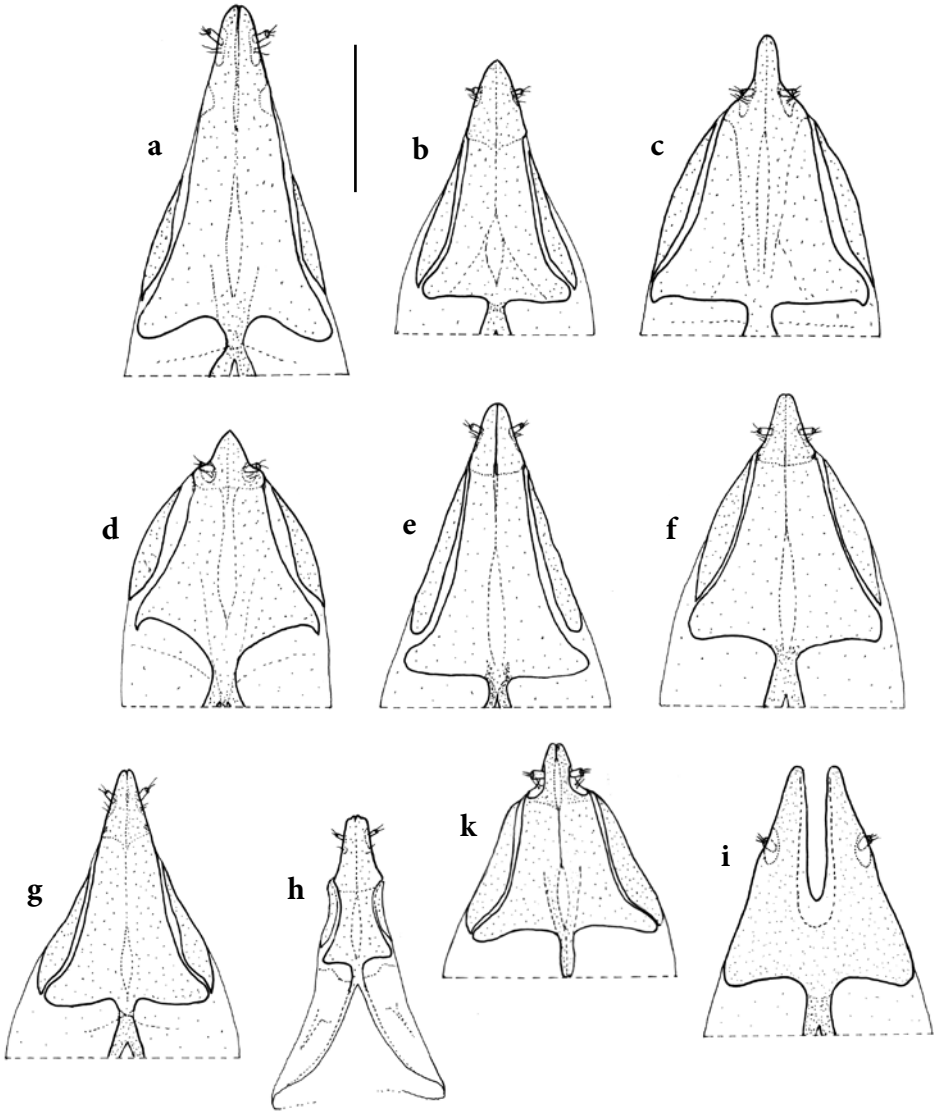

Fig. 17 − Female genitalia (**a-g**, **i**, **k**, distal portion of the ovipositor, from "central point" to apex; **h**, the whole ovipositor) of *Meligethes* spp.: **a**, *M. pectoralis* Rebmann, 1956; **b**, *M. pseudopectoralis* sp. n.; **c**, *M. lloydi* Easton, 1968; **d**, *M. sadanarii* S.-T. Hisamatsu, 2009; **e**, *M. ferrugineus* Reitter, 1873; **f**, *M. ferruginoides* sp. n.; **g**, *M. castanescens* Grouvelle, 1903; **h**, *M. xenogynus* sp. n.; **i**, *M. shirakii* S. Hisamatsu, 1956. **k**, *M. schuelkei* sp. n. Scale bar: 0.2 mm.

rated by 0.5/0.8 diameter or less, becoming gradually finer and sparser apically, and organized to form irregular but almost complete and rather strong transverse strigosity; interspaces smooth and moderately shining. Pygidium subtriangular, roundly obtuse and slightly reflexed apically. Punctures fine and shallow, mostly distributed to form irregular transverse strigosity, separated by less than one diameter; interspaces obsoletely reticulate, nearly shining.

Ventral habitus: Prosternum, hypomera and median portion of metasternum finely and sparsely punctate, interspaces smooth and moderately shining. First abdominal ventrite coarsely and densely punctate, between metacoxae shining, at sides reticulate. Prosternal process parallel-sided, blunty (roundly) angulate apically. Metaventrite in male medially with relatively large shallow oval impression at posterior half.

Appendages: Antennae exhibiting ratio ANLE/HWEA = 0.80, antennaal club broadly oval, exhibiting ratio CLLE/

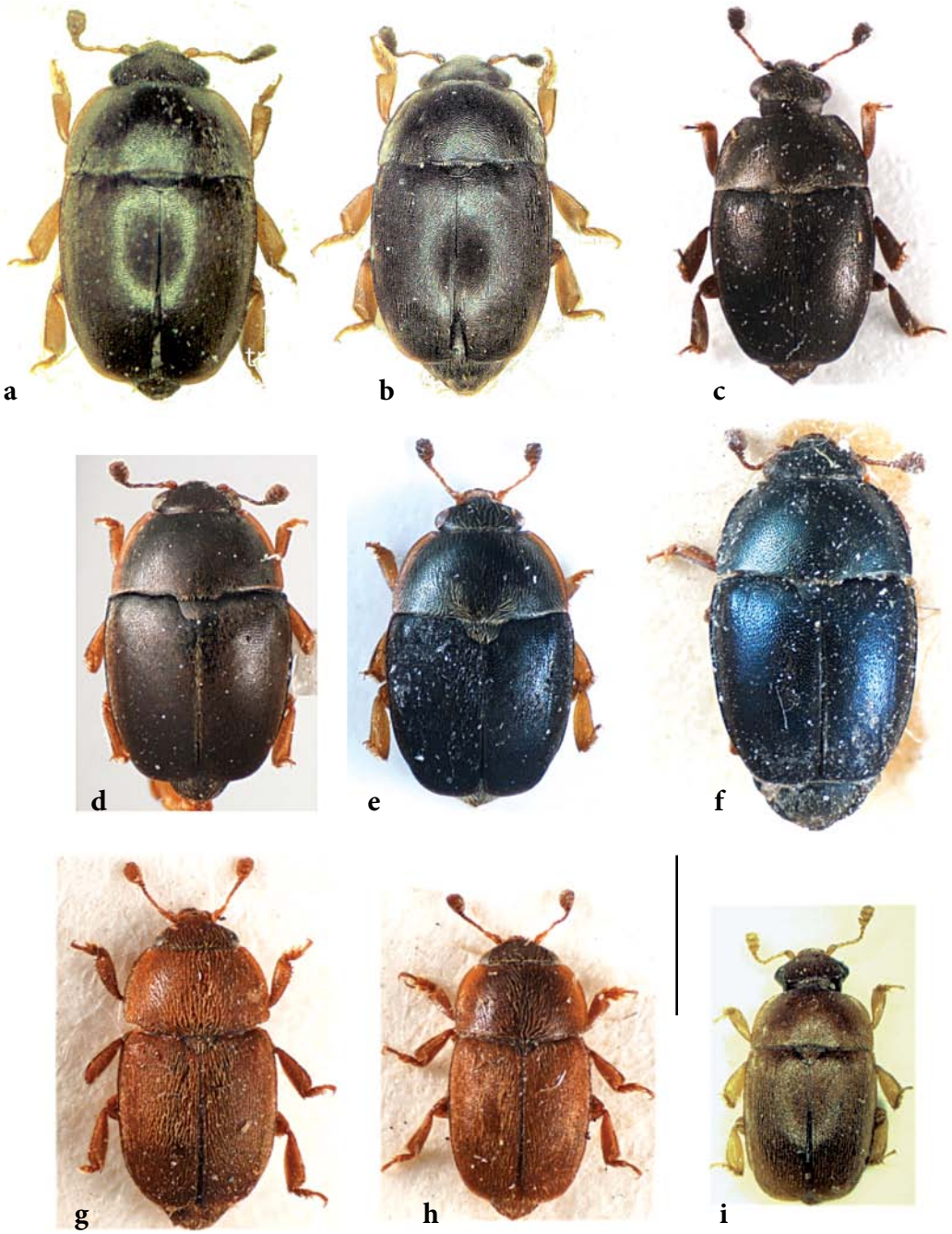

Fig. 18 – Habitus of *Meligethes* spp. (dorsal view): **a**, *M. atratus* (Olivier, 1790); **b**, *M. flavimanus* Stephens, 1830; **c**, *M. hammondi* Kirejtshuk, 1980; **d**, *M. torquatus* Jelínek, 1997; **e**, *M. violaceus* Reitter, 1873; **f**, *M. cyaneus* Easton, 1957; **g**, *M. vulpes* Solsky, 1876; **h**, *M. lutra* Solsky, 1876; **i**, *M. martes* sp. n. Scale bar: 1.7 mm.

W10J = 1.15; ratio CLLE/ANLE = 0.29. Protibiae exhibiting ratio LETI/WITI ≈ 2.80,outer margin densely finely denticulate with several teeth at distal end somewhat larger. Protarsal plates moderately widened (ratio WFTA/LFTA ≈ 0.31). Tarsal claws strongly dentate. Metatibiae exhibiting ratio LETI/WITI ≈ 3.0.
Male genitalia: as figured (Figs 6 k-l); ratio LETE/WITE = 1.05, terminal excision deeply and narrowly U-shaped, ratio DTIN/LETE = 0.60; tips of parameres broadly rounded. Setae at distal apex of tegmen long, ratio THLE/LETE ≈ 0.27, distributed on each side in two distinctly separated (outer and inner) tufts. Aedeagus markedly widened at distal third, rather broad (ratio LEAE/WIAE = 1.63), strongly arcuately narrowed toward bluntly pointed apex.
Female: unknown.

Type material. *Material examined:* Holotype, ♂, **Nepal**: Seti Province, Bajhang District, 29 Km NE Chainpur,

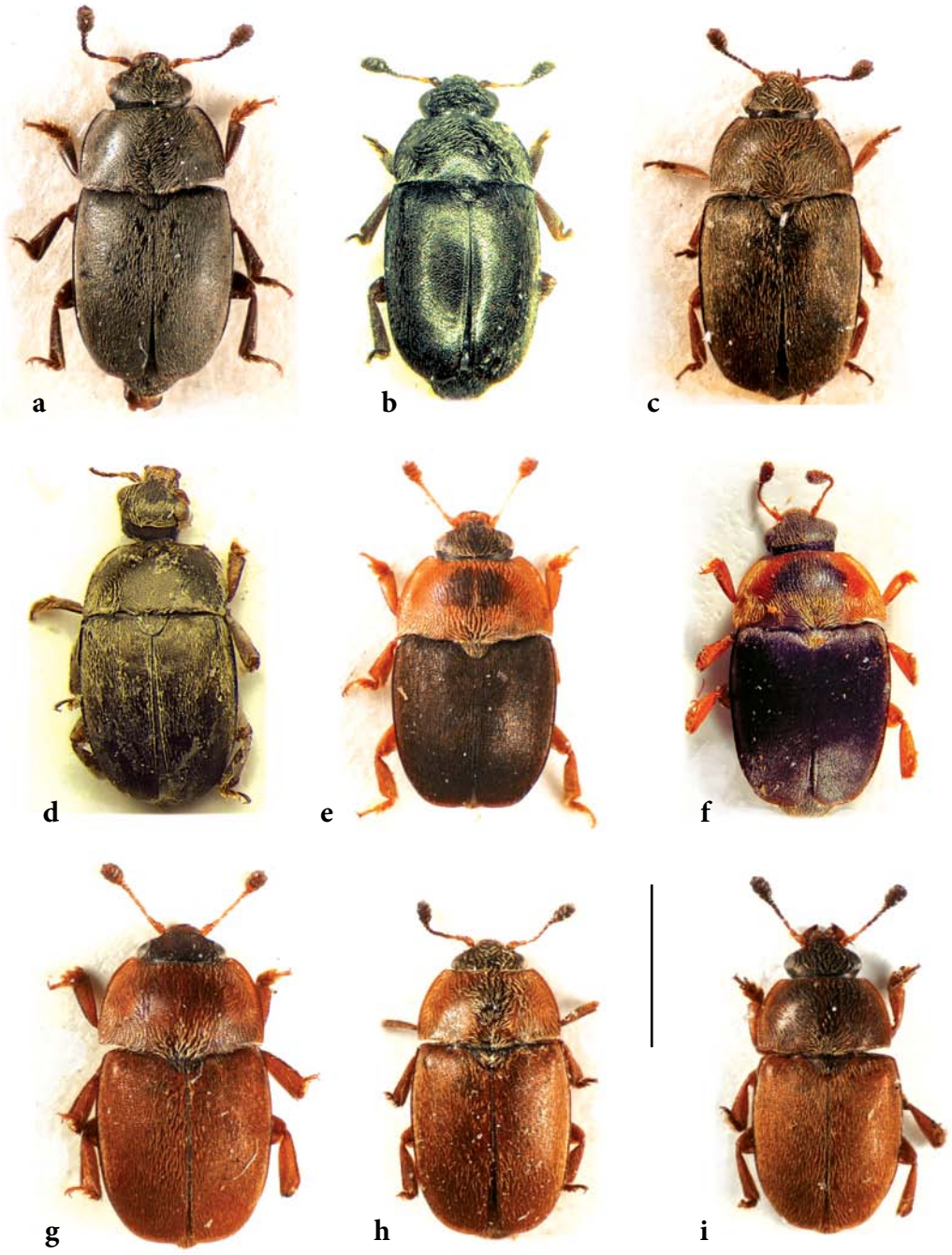

Fig. 19 − Habitus of *Meligethes* spp. (dorsal view): **a**, *M. nepalensis* Easton, 1968; **b**, *M. volkovichi* sp. n.; **c**, *M. griseus* Jelínek, 1978; **d**, *M. cinereoargenteus* sp. n.; **e**, *M. binotatus* Grouvelle, 1894; **f**, *M. transmissus* Kirejtshuk, 1988; **g**, *M. tryznai* sp. n.; **h**, *M. stenotarsus* sp. n.; **i**, *M. marmota* sp. n. Scale bar: 1.7 mm.

Ghatganga Khola, NE Shima, 29.44.51N, 81.23.04E, 2300 m, 25 Jun 2009, A. Kopetz lgt (NKME).

Distribution. **EPA**: NP.
Currently only known from NW Nepal.

Chorotype. Nepalese.

Host-plant. Unknown.

Habitat. Edges of riverine mountain forest, around 2300 m.

Phenology. **VI (VII ?)**.

DNA data. Not available.

Taxonomic remarks. This species occupies a markedly isolated position among members of the subgenus *Od-*

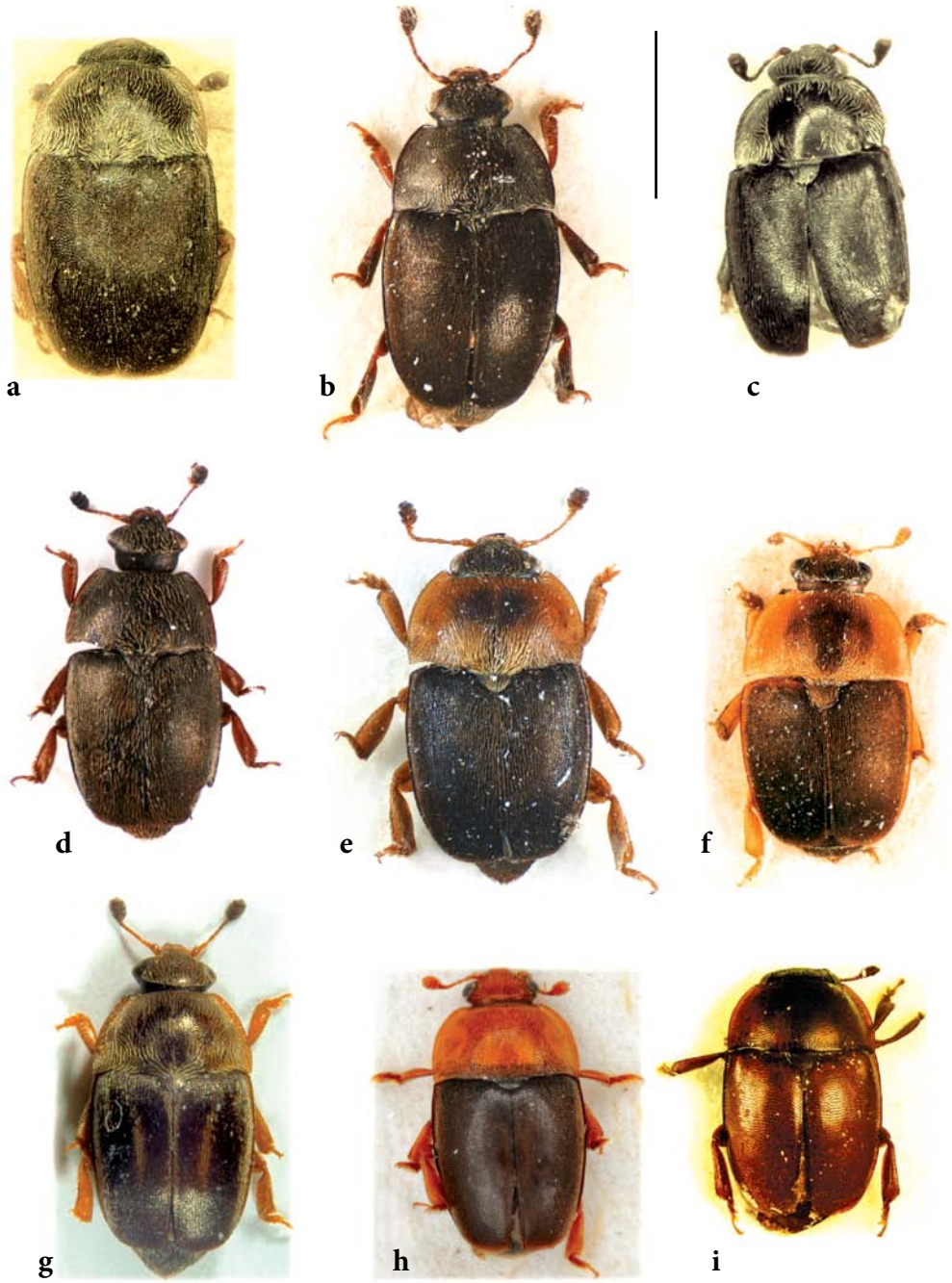

Fig. 20 − Habitus of *Meligethes* spp. (dorsal view): **a**, *M. argentithorax* sp. n.; **b**, *M. auripilis* Reitter, 1889; **c**, *M. clinei* sp. n.; **d**, *M. aurifer* sp. n.; **e**, *M. nivalis* sp. n.; **f**, *M. auricomus* Rebmann, 1956; **g**, *M. aureolineatus* sp. n.; **h**, *M. flavicollis* Reitter, 1873; **i**, *M. aurantirugosus* sp. n. Scale bar: 1.7 mm.

onthogethes, combining markedly strigose elytra (like in *M. flavicollis* and *M. pectoralis*), orange-brown dorsal surface (like in members of the *M. ferrugineus* group), and peculiar male genitalia (Figs 6 k-l).

Name derivation. Referring to the dorsal orange-brown colouration (from Latin *aurantium*, orange) combined with the markedly strigose elytra (from Latin *rugosus*, strigose).

Conclusions

The present revision of the genus *Meligethes* Stephens likely represents only a starting point for further studies on this speciose taxon. In fact, judging from the high number of new species we discovered and described from museum and private collections in the present paper (23 out of 53 known thus far), we suspect that the actual number of *Meligethes* species could be significantly higher.

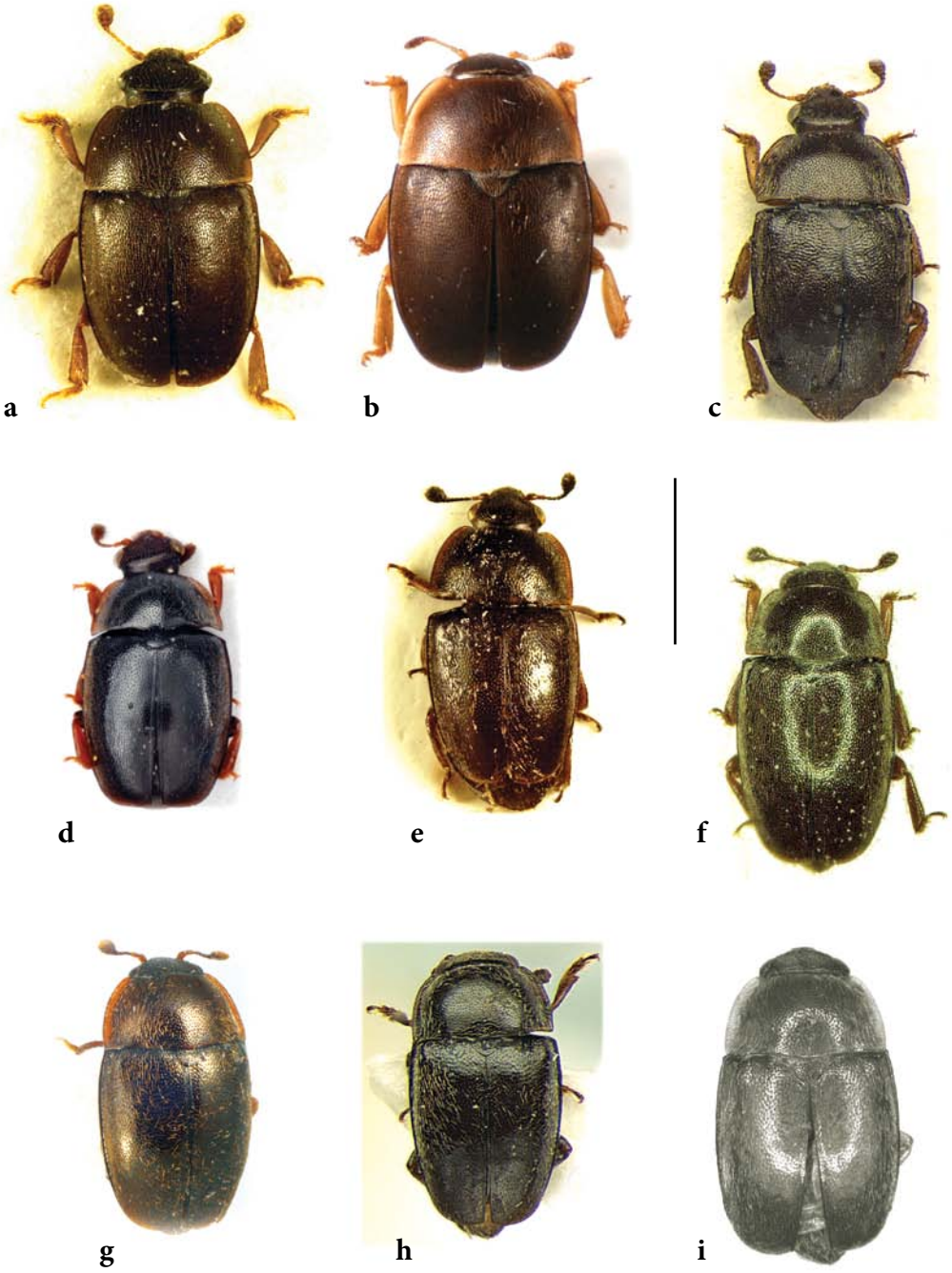

Fig. 21 − Habitus of *Meligethes* spp. (dorsal view): **a**, *M. denticulatus* (Heer, 1841); **b**, *M. wagneri* Rebmann, 1956; **c**, *M. chinensis* Kirejtshuk, 1979; **d**, *M. occultus* sp. n.; **e**, *M. schuelkei* sp. n.; **f**, *M. brassicogethoides* sp. n.; **g**, *M. luteoornatus* sp. n.; **h**, *M. nigroaeneus* sp. n.; **i**, *M. pallidoelytrorum* Chen & Kirejtshuk, 2013. Scale bar: 1.7 mm.

In particular, several other new species will be certainly discovered in the next years in areas between eastern Middle Asia, Northern Indian subcontinent, China, and northern Indochina, where no Nitidulid specialists have been thus far involved in field expeditions aimed to specifically collect pollen beetles with specialized methods.

Most of the known species seem to be concentrated in central and southern China, chiefly in subtropical evergreen broadleaf forest zone, in eastern portions of the Qinghai-Xizang Plateau alpine vegetation zone, and in southern portions of the warm temperate deciduous-broadleaf forest zone (Fang et al. 2002; Fig. 23: see also http://www.chinamaps.org/china/china-land-cover-map-large-2.html). These three main areas represent true biodiversity hot-spots for *Meligethes*, in company with Nepal, Bhutan, Taiwan, and likely of the nearly unexplored surrounding mountain areas of eastern India (Arunachal Pradesh) and of northern Myanmar.

As recently demonstrated by Audisio et al. (1999, 2001a,b, 2002, 2005,) and by De Biase et al. (2012) in the related genus *Brassicogethes*, we also suspect that, chiefly when fresh material available (possibly coupled with ad-

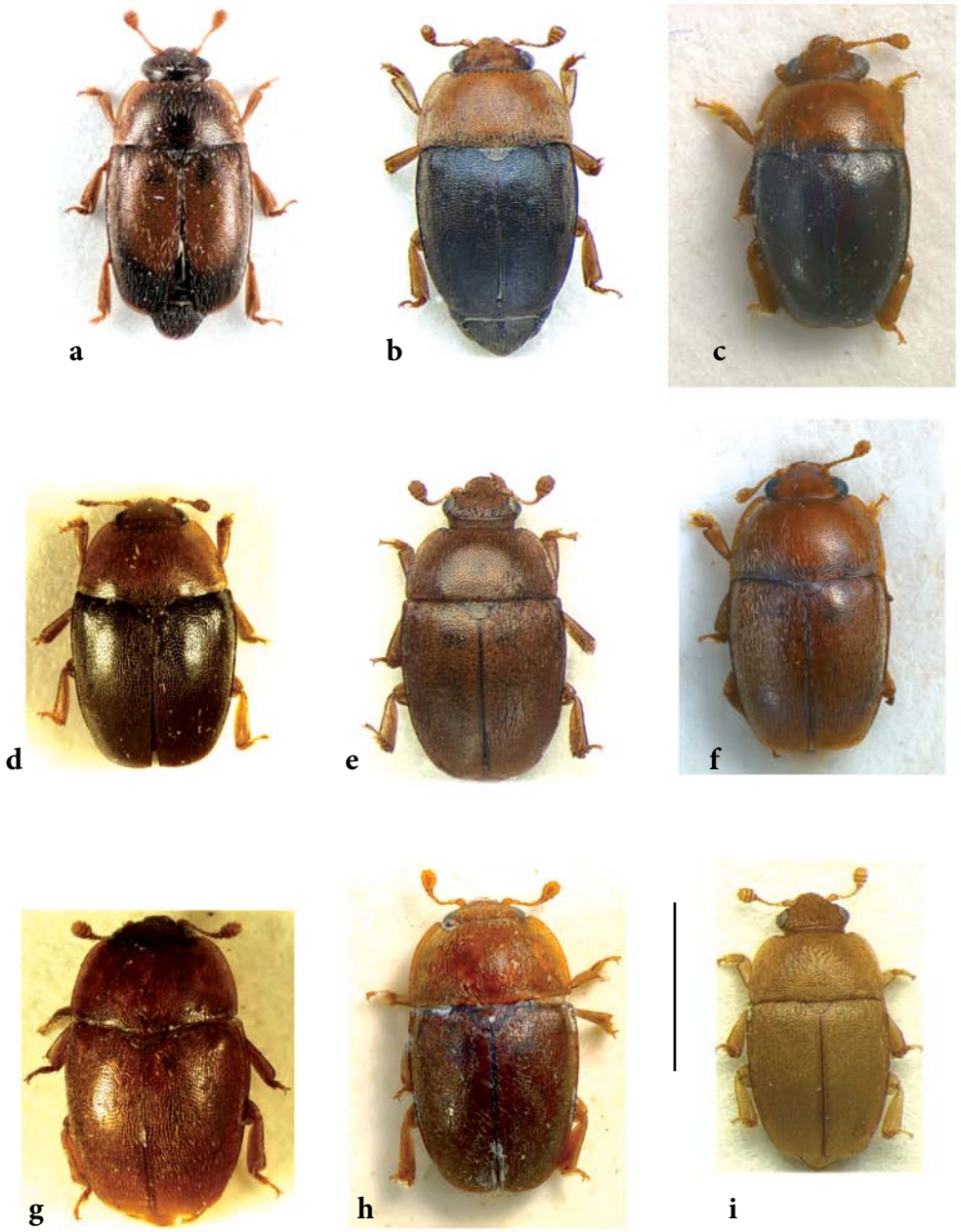

Fig. 22 − Habitus of *Meligethes* spp. (dorsal view): **a**, *M. simulator* sp. n.; **b**, *M. pectoralis* Rebmann, 1956; **c**, *M. lloydi* Easton, 1968; **d**, *M. pseudopectoralis* sp. n.; **e**, *M. castanescens* Grouvelle, 1903; **f**, *M. shirakii* S.Hisamatsu, 1956; **g**, *M. ferrugineus* Reitter, 1873; **h**, *M. ferruginoides* sp. n.; **i**, *M. xenogynus* sp. n. Scale bar: 1.7 mm.

Fig. 23 − Map of the Vegetation Zones of China. For additional details refer to Fang et al. (2002) and to http://www.chinamaps.org/china/china-land-cover-map-large-2.html

ditional detailed biological and ecological data on larvae), molecular analyses could also strongly contribute to detect several additional cryptic species among the most problematic species complexes (like, e.g., those of *M. chinensis, M. ferrugineus*, *M. pectoralis*, *M. auripilis*, *M. binotatus*, and *M. nepalensis*). Also the discovery of larval host-plants and larvae of most species is certainly an additional important target for future field researches.

In the meanwhile, the above mentioned virtual key to identification of the 53 thus far known *Meligethes* species (based on MOSCH® software: Cerretti et al. 2012), and the cladistic morphological analysis of the whole inclusive taxa presented in an upcoming companion paper (Cerretti et al. unpublished), will certainly improve our knowledge on this important clade of pollen beetles.

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